

**VIRGINIA ROANOKE RIVER BASIN ADVISORY COMMITTEE MEETING MINUTES**  
**Riverstone Technology Center, Halifax County**  
**September 6, 2007**

**Attendance:** VRRBAC members Read Charlton, Walter Coles, Robert Conner, Evelyn Janney, John Lindsey, and Charles Poindexter; DEQ: Greg Anderson, Angela Neilan, and David Ruble; DCR: Krystal Coxon and Dean Gall; VDOF: Chuck Hutsell

**Call to Order:**

Chairman Poindexter called the meeting to order.

**Welcome: Mr. William I. Fitzgerald, Chairman, Halifax County Board of Supervisors**

Good morning. I just met Mr. Poindexter a few minutes ago and I understand he's running for the House of Delegates. On behalf of the Halifax County Board of Supervisors we welcome you to Halifax County and really appreciate you taking the time and scheduling your meeting here in Halifax County. We encourage you, if you have the time, to take a ride through our County. We've done some things to this County that actually have made history. We have built 2 new elementary schools and renovated the only middle school in the County. So, if you get an opportunity to ride past those schools or even to stop by one of them, please do so. The Prizery, which is a Community Fine Arts and Welcoming Center, and Berry Hill Mansion are located here. There are a lot of things that go on here in Halifax County and we hope you have the time to stop by and see some of those attractions. Again, on behalf of the Board and the Halifax Administration and Jerry, we thank you for your efforts and we appreciate all that you do. We hope you enjoy your stay here. Thank you.

**Recognition of Members and Visitors:**

Chairman Poindexter welcomed everyone and recognized members and guests. Those not mentioned above under attendance included Sarah Baumgardner, Western Virginia Water Authority, William Fitzgerald, Halifax County BOS Janice Gibson, Halifax County SWCD, Jay Gilliam, Virginia Foundation for Natural Resources, Donna Hicks, Henry County, Chester Janney, Floyd County, Jerry Lovelace and Bobby Love, Halifax County, Tammy Maxey, Virginia Ag in the Classroom, Katherine Mull, Dan River Basin Association, Bruce Pierce, Halifax County SWCD, and Robin Tuck, Halifax County.

**May 21, 2007 Meeting Minutes:**

These minutes were approved.

**Angela Neilan, DEQ, Facilitator for Today's Environmental Education Program**

Thank you very much Chairman Poindexter. I appreciate your nice introduction. This morning in front of you are several different colors of index cards and "stickies". What we'd like to do, because we have a very full agenda for the Environmental Education Panel, is to put questions for any of the speakers on index cards and I'll do a facilitated question and answer after the presentations. That way I think we'll get through everything a whole lot faster. The second thing is we know the reason we're all here today is to figure out how we might work together on some of these things. I ask that you write your ideas as you think of them as any of our speakers are talking. We are looking for ways to collaborate with, co-sponsor, or maybe support each other in some way. These go on the green "stickies". Are you clear on the instructions? OK. I'll introduce our speakers now. I asked each of them to give me 3 things that they thought you might appreciate knowing about them before they gave their presentation.

**Donna Hicks, Curriculum Specialist, Henry County Schools, "Virginia SOL's, Science Fairs, and Classroom Environmental Education"**

- Our first speaker is Donna Hicks. Donna is a secondary curriculum specialist here in Henry County Schools. She is a former Biology teacher and she facilitated implementation of Child in the

Classroom, Virginia Save Our Streams, and the NASP Archery in the Henry County Schools. It is nice to introduce Donna Hicks and her presentation.

- Thank you all for inviting me and please, I'm so excited about what we're doing in Henry County that you may need to keep me in check. I've been asked to speak to you all just briefly about the Science SOLs, Environmental Education, and Science Fairs as they relate to what we've done in Henry County. Now the pictures that you'll see throughout my presentation are actual pictures we've taken of the activities we've done in Henry County. Here is a picture of the Trout Release.
- I am not sure how familiar you all are with the Science SOLs for Virginia. You can access them at this website, the Department of Ed website and I did give you a sampling of the Science SOLs in the right hand side of your Henry County folder. I chose 7<sup>th</sup> grade Life Science because that's where we focused our meaningful watershed educational experience. At this point, we are expanding it. What we're doing in environmental education is growing so fast, I'm glad to have the opportunity to hear all the things going on so we can have the collaborative effort. But you can take a look at those. You can see that Virginia has pretty rigorous standards in Science. Being a former biology teacher those life science ones are near and dear to my heart. You can also see that the first thing in the green is sort of an overview of the science standards in Virginia. You can see there's an emphasis on scientific investigation in K through 12. It spirals. Kids starting in kindergarten are doing some investigative things and it spirals all the way through to physics standards at the high school level. So the investigative piece is extremely important. We want kids out doing real experimentation in the environment and otherwise. You can also take a look at the 7<sup>th</sup> grade Life Science Standards, that's the 2<sup>nd</sup> green sheet and the 3<sup>rd</sup> sheet is the curriculum framework from the State Department that spells out the standards, it gives you some more details of the standards. But you can go to the Department of Ed website and check out all the standards.
- We started SOL testing in the spring of 1998 and I found that accountability is a good thing. It really is, having SOL testing is a good thing. For example, I am a former biology teacher, I love genetics, and I would spend like 3 months on genetics. But, you know, it's not fair for my kids not to get exposure to taxonomical hierarchy and the kingdoms and other things that they are supposed to get exposure to in biology. So it keeps us all giving kids, you know, we're on the same page in the State of Virginia. Giving kids what they supposed to have in a General Biology I course. We're not hobby teaching. It does kind of make sure that across the board in the State of Virginia all kids taking biology, for example, are getting this, this, this, and this. The SOLs are minimal. Teachers are certainly encouraged to go beyond them and when we started testing in the spring of 1998 I found myself and my colleagues really nervous about that. We were saying, "Oh no, this is scary!" And we started like maybe pulling out some of the lab experiences and you know, taking activities out. After we tested a few times we're like, we were covering the SOLs anyway! Above and beyond the standards, so we can do the labs, we can do the activities. And we need to spread that across the state because it's not just a checklist of things to cover in class. You need to do much more than that. The standards need to be taught in a broad spectrum.
- Strands that are covered K through 6<sup>th</sup>, pretty much you have some scientific investigation, you have some life science, you have some earth/space science, and you have some physical science. And you can see the strands in K through 6<sup>th</sup>. Starting in 7<sup>th</sup> grade with life science and moving through physics, it's specific to the subject area. Scientific investigation, yea I can't stress that enough, is about 20% of the test questions, which are not rote memorization, but rather application questions. Kids need to have real experiences in order to have success on those questions.
- Again, teachers are encouraged to move beyond that list of standards, teaching them sequentially. Okay, we're doing SOL 1 today, 2 tomorrow. That doesn't cut it. Doing them in a fragmented fashion where they're not connected. For example we're going to do this scientific investigation today and we're done with it and now we're moving on to ecology. You can't do it that way. You have to have scientific investigation going on throughout all the strands, throughout the entire year. And also covering the SOL in an interdisciplinary manner is much more effective when you have teachers coming together saying I'm doing this in science, I'm doing this in math, I'm doing this in

English, I'm doing this in social studies. We can pull this together and get a lot of standards covered in one shot with a project or some comprehensive thing that we're doing.

- Now, some examples that Henry County has implemented to do SOL coverage like this are our Trout in the Classroom Project, Virginia Save Our Streams, Science Fairs, and Archery, although I'm not going to talk that much about Archery today. We have implemented a lot of projects and we're new at this. These projects have only been in place about a year, year and a half, and it's growing by leaps and bounds, and we've got a lot of work to do. But it's really taken off; we've got a lot of momentum that we want to keep going.
- Our Trout in the Classroom Project, we have over 20 tanks in our classrooms in Henry County. They're also in Martinsville City, Pittsylvania, Patrick, the Museum, the Virginia Museum of Natural History has one and various other places. We may have some here in Halifax. Does anybody know? We're spreading, look for it in Halifax soon!
- **Question: Read Charlton asked what size, typically what size would the trout be? I mean are they finger-length?** When we release them they're fry, little fry. We get them as eggs in the fall and they are raised throughout the year and the kids monitor the pH and all the parameters of the tank and they talk about the life cycle of the trout and how ecologically, you know, what feed the trout, that's where our Virginia Save Our Streams benthic macroinvertebrate sampling comes in. So we talk about the food chain and what feeds the trout so when we release them they think about all the bugs and larvae and things that are out there to feed. So the 2 projects go hand-in-hand very nicely. **This Committee has been over to the Hatchery in Brookneal. I suppose you're familiar with that?** I'm not familiar with the Hatchery. Dr. David Jones, our local Orthodontist, he's the one who gets the eggs and gets them out to the classrooms. **They are interesting, I mean, it shows the full development from eggs, to fingerlings, to releasing.** Sounds like a good field trip! **The kids are fascinated.** Cool! Angela said can I suggest that because that came from you, that that's an idea that we could work on together – is linking this. **Sure!** So, if you'll put it on here, then I'll post it. **I don't remember the name of the gentleman in charge of the Hatchery.** It's a great idea! **The time we were over there, but its right off of the, just below, right there on the banks of the Roanoke River and it's right there in Brookneal.** Okay, great!
- We have adopted some New Jersey curriculum and other states' curriculum, because I think there's one being developed for Virginia. A curriculum for Trout in the Classroom, there's one being developed for Virginia, I'm pretty sure. We have used pieces of other states' Trout in the Classroom curriculum to implement that program so there's a lot of instruction going on. We don't just have the trout without some attached instructions. That's very pertinent to the trout and covers a lot of standards. We get a lot of standards covered in the Investigation strand and the Life Sciences strand. They write reflections that were happening to their language arts. There's a math connection. When they do their benthic macro-invertebrate sampling they have to do a formula where they calculate the number of critters and go through some pretty basic math steps to determine the stream health. So there are a lot of connections to lots of standards. Emphasizing what I'm saying, you need a big project like this that covers a lot of turf in one shot. Teachers are more open to buy in, if you can do a project like that.
- This slide is Governor Kaine at one of trout releases this past May. Dr. David James, standing next to him, is a local orthodontist in Henry County. I have to give credit for getting Trout in the Classroom started. He is a member of Trout Unlimited and he was just enthralled with the program and asked if he could bring it to the schools. He put a lot of his own time and money into getting it going in the school system. I don't think you can see that picture but it is of one of our newly released trout. And to satisfy Virginia's meaningful watershed educational experience for all students, we target 7<sup>th</sup> grade. We met Wayne Kirkpatrick and Katherine Hebert, who work with Katherine Mull. Wayne introduced himself to me and invited himself into our school system to share the Virginia State SOS Program. Wow! That has really taken off too! We have had approximately 600 7<sup>th</sup> graders having a hands-on stream-side experience this last spring. They go out and they're collecting the critters, they're counting, they're identifying, they're doing the math

to determine the health of streams in Henry County. We were able, with Fielddale-Collinsville Middle School to test Reed Creek and it was borderline unacceptable. This generated a lot of conversation about what's going on here. It's right on 220 and there's a slope. Oil and things come in from the vehicles. The kids were really talking about this not being acceptable. They were saying what's causing this and we've got to stop this. I'll read a reflection of one of the kids. They're really starting to think about environmental stewardship through these projects. The grant that we got was a \$6,500 grant and it's really connected to the Chesapeake Bay Restoration Initiative. We don't feed into the Chesapeake Bay, of course, but they gave the money to us anyway, as long as we showed kids how we fed the Smith River, which feeds into the Dan, and then the Roanoke going all the way into the Albemarle Sound in NC. So we had to make that connection, so the kids can see that what we do affects a lot of people across the state and into NC. There's a picture of some kids checking out their macro-invertebrates. Next is just the definition of Meaningful Watershed Educational Experience from the State Department. By the way, the PowerPoint is in the left side of your folder, so you've got all this. I notice it's investigative; it's supposed to be for all students. So we really took a close look at the parameters and made sure that we met the definition of Meaningful Watershed Experience. It was our first time trying to get 600 kids through this experience and that was rather daunting. But it was very successful and we've learned from some of our mistakes and nobody drowned. Maybe a few kids complained about being too hot that day, but other than that it was a really positive experience. We have a lot of momentum that I don't want us to lose.

- This picture is of a particular method is the muddy bottom method of sampling. It's a little different from the kids doing the rocky bottom with the nets. This creek is on property at Laurel Park Middle School in Henry County and they have to do a slightly different method. Our results are shown here and this is the math connection. I didn't show the formula, but if anybody's interested, I can show you the data sheets and the formula and all that. The creek at Laurel Park Middle School is acceptable. The kids were so excited, "Our creek's healthy, yeah!" Again, the one at Fielddale-Collinsville was borderline unacceptable and they were like, "Oh, no, what's up with this? We got to figure this out." There's the rocky bottom method in this slide.
- Now the last piece, which is Science Fairs. Currently in Henry County we don't do district-wide Science Fairs, I've pushed and pushed, but I've got some teachers on board, but I've still got some work to do there. I know, for example, Roanoke City and Roanoke County and maybe some other places represented here do district-wide fairs. That's something we, you know, we have some of our elementary schools about half of them do and they do very well. I'm impressed because I get to go to a lot of these and be a judge. I see fewer volcanoes and more actual manipulation of variables. So the teachers are notching it up, you know, they're ratcheting it up. Kids understand what scientific investigation is about which is more than just doing a volcano demo. And they have their kids talk to the judges and that's so powerful because I sit down and I can ask questions. "Well, why did you do it that way? What made you do that? Tell me a little bit about this." That takes a long time, but it's very powerful. And again, I'm pushing toward, you know, a district-wide fair. I need more buy-in from the teachers, so they don't see it as just another thing. That's key. David and I were just talking about that is key. That is to get teachers to buy-in and do such projects. You have to show them that it's not just an added thing. You can encompass a lot of what you've got to do anyway by doing projects like this. So thank you and I hate to do this because I always leave people out. Dr. David Jones, the local Orthodontist, who really got Trout in the Classroom started; Dan River Basin Association, Katherine Mull, of course, is a big part of that; Wayne and Katherine Hebert worked directly with us; I've got the organization wrong, this is actually the DEQ, Ann Regn and Chris Jarvis; Department of Education, Paula Clinowski was involved with our projects; and countless others. So if I've left anybody out, I certainly apologize. And, again, I didn't bring the Archery piece into this because I was just focusing on the water, but we have worked with Karen Colson with the Department of Game and Inland Fisheries to implement Archery this past year too.
- I want to do a huge thing called Henry County Goes Wild. We have all this water stuff going, Archery, we need to bring in Angling and Wildlife Preservation, you know, it's endless. So, we have a lot of aspirations and I'm very excited to be a part of it. And while we were releasing trout

this guy in the slide happened to be out there fishing and the kids were like, "Let it go! Let it go! Release the brown trout!" Thank you all.

- Angela Neilan said thank you very much Donna. As I gave you the instructions earlier, if you have any questions for Donna about the SOLs, put them on the little cards and we'll have the panel discussion after everybody does their presentation. And thank you for the good idea for doing the tour of the fisheries.

**Krystal Coxon, Virginia DCR; "Overview of DCR Youth and Adult Environmental Education Programs"**

- Angela introduced Krystal and said for starters, she says she's older than she looks. She started working in Watershed Protection in 2000 as a Peace Corp Volunteer in Central America. She most recently worked in Northern Virginia in Outreach and Education in Watershed and Storm-water Issues. The 2<sup>nd</sup> thing she wants to share is that she's relatively new to this area and to DCR, so this meeting will be a great overview for her and she's excited to be involved. And 3<sup>rd</sup> she recently married, so she may stumble over her last name for a couple more months. Krystal Kerns Coxon.
- Thank you and one thing I didn't mention in the card is that with DCR I'm the Watershed Field Coordinator covering right now the New River and the Roanoke River Watersheds. **Read Charlton commented that it flows to the Ohio.** Yes and then ultimately any guess as to where it ultimately drains to? Your choice is: A. Chesapeake Bay or B. Gulf of Mexico. **B.** It's the Gulf, that's right.
- I'm going to be talking for DCR on 3 divisions. I am with the Soil and Water Division, but I grabbed some information and some pictures from Natural Heritage, the Karst Program and also State Parks. I wanted to make sure you got a feel for different things going on within DCR, not just my division. But starting off with Soil and Water, one of the programs we offer is Adopt a Stream/Adopt a River. You may already be familiar with it, but for those of you who aren't, a group (2 or more people) can adopt a segment of stream, hopefully no less than ½ mile, and DCR provides you with bags, gloves, and vests. We ask that the segment be cleaned up twice a year and that you send in your data that says what type of trash and how much. That way we can log it and find out what some of the hot spots are in your area. On your 2<sup>nd</sup> clean up you get a permanent sign which is shown there in the middle. The name of your group is added to that. So this is appropriate for youth and adults. It's also appropriate for neighborhoods and communities.
- Storm Drain Stenciling is another one of the projects you probably are already familiar with. The idea is to teach people, it turns out to be adults more than anything because youth get this opportunity now through the Meaningful Watershed Experience where they're learning quite a bit about their watershed. When I'm out at educational events and I'm hosting a booth and I'm saying, "Where does a Storm Drain lead?" They'll stop and their response is, "Water treatment plants." It's still a big problem and it's no big surprise. There just hasn't been a big education push to teach people that. But that's what this program is about, teaching people that storm drains lead to streams or water bodies. We stencil them, we provide you with the materials to do that, both the paint and stencil. Hopefully we're going to move to the markers and the glue at some point, it's a little bit easier. This is good for usually adult/youth combination.
- Then, a little bit more sporadic, because we have some stewardship projects that come up as a result of TMDL Implementation Plans. Does everyone already know what that means, the TMDL? Total Maximum Daily Load, yes. The idea is that if a stream is not meeting its standards under the Clean Water Act we figure out what pollutants are degrading the water quality and then we develop projects to solve those. And some of those projects may be in the form of community projects, such as planting trees and shrubs, native trees and shrubs along a stream or riverbank to protect the banks and improve water quality. Other things may be constructing rain gardens on a school or maybe in a neighborhood, a Homeowners Association Property, something like that. So those types of projects will come up here and there.

- One project that is not something we're doing right now, but I want to make a pitch for it since everyone's open to hearing ideas, is a project that was modeled after the Livable Neighborhood's Program. That is built around the idea of working as Grass Roots as you can in neighborhoods. You take a resident, you teach them how to be a team leader, they invite their neighbors over to their house and they have 4 different meetings that teach about different things such as water quality, water quantity, water conservation, something like that. Then there are different activities that each one of those neighbors goes and does in their house or in and around their community. It's a great program because you do pre- and post-surveys so you can measure the change in behavior. You can really quantify the changes that you are making and because we are so few people in such a large area you get to multiply your message and your information a lot quicker because you're working with so many volunteers.
- The last item on soil and water are some of the tools we offer: the watershed model can be checked out. It's a big plastic model and you can put different pollutants on it such as pet waste and sediment, things like that. They're just cake decorating, I mean, it's food based and you make it rain and it's great for adults and youth. We have some different online resources and then brochures. I brought some with me if anyone's interested. Virginia's Year Round Guide to Yard Care, it tells you each season what you should and shouldn't be doing. Watershed Connections, making sure people know that they live in a watershed and what watershed that they live in. And I have got beau coups of boxes of these. I would love it if anyone's interested and can take them off my hands.
- I want to move on to Natural Heritage now and when I talk about this I'm talking about karst topography, sinkholes, caves, sinking underground streams. This really only applies to the upper Roanoke River Watershed in Virginia and this map here is showing you, in this area, some of the caves, significant caves that exist up here. Then those are some of the species that are found. They've got a great program. I'm speaking for Julie Fagen right now. They have various conferences and seminars that teach people about karst topography and they offer field trips for adults and youths to learn a little bit about it and how/what people do on their land really does impact the water quality of the sinkholes and underground streams. They offer also at times a karst workshop series. They've got one that's coming up. I think the beginning of October. It's a really big annual event and all of the experts around are going to be hosting it. It's called Growing Communities in Karst and if anyone's interested I have some of the brochures on how to sign up for that. Let's see, I think it's going to be out in the, Shepherdstown, West Virginia and the registration date on this is past but I called and I said, "Hey I might have some folks that'll be interested at this meeting." And they said, "That's fine," just sign up and try to get in your information Friday if you can. Some other things that they are working on and perhaps, I don't know if they've worked with you, Donna, but they produced some great classroom materials and they distribute those at teacher training workshops. They have tried to incorporate all of the information to meet Science Standards of Learning. I'm not quite sure which grades they focus on, but they do a lot of great work. They also have some other tool like brochures that I have a display copy of. Also some online resources, some videos, and then they've got some things you can rent out like the cave crawl and things like that which are, that type of activity which would be appropriate for kids. This one right here, this guy is meant for homeowners, it's called Living on Karst and it tells you really what you're doing, what you're doing and how it impacts karst.
- And now I'll move on to State Parks where I'll be speaking for Nancy Helpman now. Someone correct me if I'm wrong, but we have 5 VA State Parks in the Roanoke Watershed. Are you all familiar with these parks? **Yes.** Then you may already know that they offer a lot of programs. They really try to focus on schools and help folks meet their SOLs by bringing students out into the State Parks for one. If there aren't funds or teachers aren't able to bring students then they give them the materials to pull something similar off in the classroom. They offer teacher training as well. They have a new program right now whereby they try to fund classes that can't afford to come to parks. Another big type of program is Youth Corps and there are 3 different types of Youth Corps programs. One is called Youth Conservation Corps which is a 3 week overnight program geared toward youth 14 to 17 years of age. The idea is to offer them environmental and conservation projects and programs and then get them involved in outdoor adventures. So it might

be kayaking, canoeing, etc. **Read Charlton asked if they stay out overnight?** Yes! In contrast to the next one which is Youth Service Corps, it's not an overnight program but rather a day program. Instead of focusing on all youth 14 to 17, it focuses on that same age range, but for youths that are at-risk or court involved. State Parks, they pulled this off by partnering with Social Services and some other partners to identify and work with these youth, but the same idea, they work on environmental conservation projects and programs and participate in their own adventures. The last type of this program is the Youth Development Corp and it's a weekend project. This is where you have some leaders and youths, so you combine the two. This is good for church groups, home-schooling groups, even Girl Scout groups, there's really not a limit on this at all. It's the same idea and this was actually the weekend work that this group did. They cleaned up a stream in the park. And then on the screen, I've got the contact information for me, so if you have any questions about the soil and water items I mentioned, feel free to call or email. Also for Jodie Fagen for the karst in the Upper Roanoke and Nancy Helpman, the contact information is written down and I have a handout for you.

- Angela said we will have the questions as soon as we're done. Are you getting ideas of what you might sponsor or become involved with or collaborate on? And this is for anybody in the room, it's not just the Commission members, please, if you have any ideas write them down, we'll discuss them at the end. **Tell me again on the blue cards vs. the green cards.** The blue cards, the blue and green little cards are for questions. The green stickies are suggestions for things to collaborate on.
- Greg Anderson introduced Sarah Baumgardner, the Western VA Water Authority Education Coordinator. **Sarah said correct, I do Environmental Education Outreach for the Water Authority serving the City of Roanoke and Roanoke County.** Angela replied neat, great! Well, maybe if we have time at the end you could just stand up and say a few things? **Sure!**

#### **Katherine Mull, Dan River Basin Association; "Overview of the Association and Environmental Education Initiatives"**

- Our next speaker is Katherine Mull. Katherine says that for the last 30 years she's worked in VA for a Planning District Commission (PDC) as a Planning Commissioner and as the Director of several non-profit organizations. The 2<sup>nd</sup> thing Katherine says is that she has developed education and outreach programs including a film on low impact development. I would like to see that. And the last is that she is formerly a management consultant. She has an MBA from UVA and a background in financial systems and marketing. So, Katherine, please take it away.
- It's great to be here. I really appreciate the opportunity to talk to you and this Committee. I'll start off by giving you a brief background on our organization at Dan River Basin Association and then I'll go into some of our educational initiatives. And I'll start off by saying our VP, Wayne Kirkpatrick, who was mentioned in the prior slides, could not be here today. He's got something to do with corn silage today and could not be here. So he's the one that really should be making this presentation and I really owe a debt of gratitude toward him. I'm passing around a brochure that shows the map of the Dan River Watershed and it's a good chunk of the Roanoke River Basin. You can see it straddles the state line between NC and VA and therein lays the challenge. We are working very hard on the Dan as the main stem and its tributaries the North and South Mayo Rivers that form the Mayo River, the Smith River, the Bannister, the Hyco, the Sandy, all of those rivers come into the Dan and then it meets obviously with the Staunton down there by Staunton River Park. It used to come together at Clarksville, which was the original confluence. Our organization currently has 2 offices, our VA office is in Collinsville at the Henry County Administration Center and our NC office is in the old Spray Cotton Mills in Eden, NC. We have almost 300 members, cover a 3,300 square mile area that you see on map there, and we're funded primarily from grants, private grants, and foundations, membership donations, and contributions. We have 2 full time staff, Katherine Hebert, who was mentioned earlier out of our VA office. She is funded by the Harvest Foundation, so she works primarily in Martinsville and Henry County and a little bit in Patrick County. Thanks to the Harvest Foundation our work has been going on there for 2 years and

we're now going in for a 3 year grant to sustain that work. That work centers a lot on creating resources in the community that can be used to promote quality of life and tourism and that kind of development in the area. We work on getting river accesses in place and she supports the Trout in the Classroom Program. We raise the foundation grant to develop a park in a parking lot, shelter trails, we work on things on the ground, rail trails, connecting people and places, providing ways for people to get out and enjoy nature.

- The mission of our organization is to protect and promote the natural and cultural resources of the Dan River Watershed through education, recreation, and conservation. And that happens when we have monthly outings on the river, so free, open to the public, we get people out there to paddle, have fun on the river and then they come to know and understand the educational programs and once people know and understand a resource and its role, they tend to want to protect it and that's where the stewardship part comes into play. And so we found that we were pulling people from as far away as Raleigh, Charlotte, we have a lot of folks from Greensboro come up to run the rivers in our area, spend money, participate in the program and that kind of ties in with our efforts to recognize the economic impact of the resource. The Dan River is a natural kind of linkage between all of these counties. All are rural and all hard-hit economically by loss and I don't have to tell you all, of tobacco, apparel, and textiles. It's all gone. And we've got a million empty square feet of mill space right where I work. So, what we're trying to do is look at ways we can help revitalize the local economy through recognition of the river as key, a key link, not only for our water quality so much, but we're also promoting municipal growth and industrial use and that was the big attraction to me coming here was to work on the economic development aspect of it. We almost were able to relocate and get a national association to relocate to this area by telling you how important the rivers were. We were 2<sup>nd</sup> in the country, we beat out Atlanta and Charlotte but they wound up going to Fredericksburg. We were this close. We made it down to the final 3 and then we were 2<sup>nd</sup>. So with that as a preface, I would like to basically talk a little bit about some of the things we are doing and Donna really captured, I guess, the essence of the Trout in the Classroom. Wayne Kirkpatrick did some work with David Jones on this program and really teaching the kids about the importance of the habitat of the trout. But what we found, it's funny, when the Governor came, one member of his cabinet that I knew from my prior job came over and said, "Wow, we're really excited about this because it's a holistic program that really affects the performance of the kids in school and their attitude toward school and their interest in being a part of the day, whereas before a lot of them were kind of disinterested. You know, they're very excited about that and for the lower warm water stretches you can actually raise other species too but for the trout you need cold clear water of the Smith and the Upper Dan. We would love to extend our programs to NC and get that going there as well.
- Wayne Kirkpatrick, our Vice President, is also looking at linking that with the stream monitoring. They picture that as a long range view. Tied into that is the importance of just one thing, one thing we can do to protect the quality of our water, not only for fish but for drinking, is to plant trees along the streams. It's to keep those buffers in place. So often we go out, we bring, we brought a whole van load of officials from NC into VA to see what was done in Henry County with access and all that, well the comments we got was, "Oh man, you got to clear out those trees so you can see the river." We have people doing land deals and consolidating land and preparing home sites and they want to clear those trees to have a view of the river. The point I want to make is you can see the river still leave the shrubs and trees in place as the buffer. There are a lot of folks who want to do the right thing but they may not be aware that there are the CREP and other cost share programs where farmers can get some help with restoring buffers. To that end we did get a grant from Contact Storm Water Solutions in Portland, Oregon to do some buffer education. We also learned that we don't want to go around calling them our riparian buffers. Wayne, as a farmer said, you tell that to a farmer and he thinks rip rap and cutting channels. So, the thing we learned is you really have to talk up, you know, say it in plain English, what is it you're talking about, it's trees along the streams. So we did get a \$12K grant to do several things, it's to put together some common, plain English brochures for the entire Dan River Watershed on why these things are important. There is a display for kids and it's a nice colorful graphic for festivals and that sort of thing. We also have a web resource where people can go, one-stop shop, everything you want to know about what it takes



to protect the streams, the tree planting projects, and all that. We also just received word that we received funds for planting from the VA Water Quality Improvement Fund to actually fund on the ground planting projects so that not only can we teach people, but we can actually show how it's done and get some things on the ground that will actually be instrumental in reducing pollutants, the overflow of pollutants into the river. So we're looking forward to that project. In NC we have funds to continue our testing of the river. Across the basin we've got some impairments and we've got some funding there and initial funding actually came from the Tourism Development folks because they're so concerned about water quality and its impact on the ability of the region to look to the rivers as a sustainable source of economic growth. So we got money from them to do some testing, we wanted to do continue that and that came through the State of NC by a state certifying lab the bacteria so we can isolate where those sources are coming from and help them in a very partnership role to find ways to get funding septic system where they can get money to repair a septic, where they can get funds to restore a buffer, maybe some help for better agriculture practices and all that. And we got another, let's see, a fund, funds from the VA Environmental Endowment and that's a project that is underway. It's called Teachers Meet Macro-Invertebrates. It trains teachers in school districts across southern VA to conduct the VA Save Our Streams protocols for county, understanding the quality of the stream based on the number and diversity of bugs in the bottom of the stream. So that's going on currently and Wayne is spearheading that. We really are looking forward to in the future having some staff to help set up citizen stations across southern VA so we can continue to collect data. A lot of times it's making sure the citizens to understand what role they can play, but a lot of times it helps us with problem sources and getting them fixed. If you do get them fixed, for example sources of sediment it reduces the cost of treating, it also reduces health risk and sediment transport of pathogens like giardia. So it's got a number of roles.

- **Angela said you have done this in how long of time? How long have you been here?** I have been here a year. It's a great area, it really is, I mean there's so much potential here and I can't say enough about the people I've met. Look around at the land, and farms, and old mill towers and arched bridges, it's God's country, it's really great and I'm very grateful to be here and we worked with Del. Hurt to get a bill for the General Assembly for Mayo River State Park and for VA to extend that almost 2,000 acres of land that NC has into VA so we have this huge resource which we think will be a great economic boom. There's a Mayo River State Park in NC that our group was instrumental in getting started through the NC General Assembly. That's out there in Patrick and Henry Counties, flows into NC and as it extends down into VA it meets the Dan. As it extends down to NC, they have acquired almost 2,000 acres. The Superintendent came on board and she got a full staff this summer and they're going gangbusters on that, developing that park. If VA can ride that wave by getting land in VA, actually leveraging a lot of what NC spent into creating an economic aspect for VA. So that bill, thanks to Del. Hurt, was passed by the General Assembly. DCR did its study for scenic river status for the Mayo and a feasibility study for a state park and all indications are that it's going to be positive. It doesn't mean we're going to have a state park, it just means that conditions exist for one. It's dependant on willing landowners, this state will never ever, ever, ever take land from a farm. He has to be willing to sell it and negotiate your price. We're very grateful for that happening. So, I think I've covered just about everything here.
- Angela said I'd like to tell you one more thing about Katherine and the Dan River Basin Association. They have been successful in negotiating one of the 1<sup>st</sup> that I know of Memorandum of Understanding (MOU) with DEQ in a partnership to work on river clean up and that's on the Dan River. So, congratulations! The signing part is going to be, what, October? They're doing a float on the River in order to celebrate that so if you can join them. Thank you, Katherine. We're lucky to have all of these resources in our area. We are talking about youth education and community education. So I just didn't want to confuse the issue. It's both adults and youth and sometimes in the schools and sometimes it's in the community.

**David Ruble, Coordinator of Environmental Education, Virginia Office of Environmental Education;  
"Overview of Environmental Education Programs"**

- Angela said now, I'd like to introduce my colleague. This is David Ruble from VA DEQ. He says he's the new Environmental Education Coordinator and he's a native of Southwest VA, Rural Retreat to be precise and most recently he helped to initiate a trails coalition for SW New Hampshire. It seems a graduate student up there in, at Antioch College.
- Thank you for inviting me out today. I just want to quickly pass out some more folders that got passed around the table, but I know that some folks aren't up front, so make sure you get a copy of our information. Again, my name is David Ruble and I'm newly hired Environmental Education Coordinator for DEQ and their Office of Environmental Education. DEQ's mission is to enhance and protect the environment of VA as well as to promote the health and well-being, of the citizens of the Commonwealth.
- Specifically today I am here to talk about the VA Office of Environmental Education and programs that we offer which involve both K through 12 Standardized Curriculum and Community Education Pieces. I was primarily hired to help out with the public outreach and community education. Our goals for the Office of Environmental Education are to understand and ecological principles, to understand the causes and effects between attitudes, behavior, and environmental quality and to possess the knowledge and skills to evaluate the choices and make informed decisions. Overall, the primary focus is to create a more educated and knowledgeable citizenry so that we can work toward improving environmental quality. That's our overarching reason for having these goals.
- Our mission is to help leverage resources for a variety of the programs that we offer so that classrooms can get resources and communities can get resources. We act as a clearinghouse for information offered to educators statewide as well as for non-profit leaders, municipalities, things of that sort that are looking, like, what is something that we need to help out with this project? And we, like, serve as a clearinghouse for a lot of information that can be of assistance to them. We also like to build local capacity for delivering high quality programs that are lined with State Standards primarily because historically we have really focused on K through 12 education. But you look at a lot of the resources out there and yes, its standards based and it's, you know, it is designed for schools, but there's a lot of really good information that can be used by the community. There's a lot of really good activities that get can spread out and you know, come out of the classroom and get into your backyard. We also want to focus on fostering stewards of ethic and lifelong learning of the environment because, you know, none of us will live in a static environment. None of us live in a bowl. So there's, kind of, no reason to just stop learning what's around you as we grow and age.
- Next, we want to talk about the activities that we coordinate. We coordinate the VA Naturally Network which is kind of the clearinghouse that DEQ helps manage for information for educators, and it's got a searchable database for the partner organizations. We have, I believe, over 800 partner organizations listed that offer a variety of information for educational purposes, for public meetings, we need a few posters. It's just amazing what all you can find. We also have a calendar for folks there and send out a broadcast email newsletter that gets sent out and although we can only say this goes to 800 organizations because of the email list served, our Director, Ann Regn, eventually groups that she's a part of as a citizen, she gets the email forwarded to her from people that are not even on our list. So we know that it disperses pretty far and wide. It's coming back full circle back to the office that initially sent out the message. **Angela emphasized the 800 to 900 partners in this VA Naturally database.**
- We also offer training at professional development events such as the Annual Conference for Environmental Education. This year the office is not hosting the Conference because the North American Association of Environmental Educators is having their big conference in VA Beach. If you have local educators that want to be, kind of, on the cutting edge of the industry, I highly encourage you all to look up online that event, that conference and to go even if you just want to learn more. There will be a wealth of national and international resources available there. **Read Charlton asked when is that going to be?** Jay Gilliam said it's going to be November 14<sup>th</sup> through 17<sup>th</sup>. **Angela said that this is one of the things that Jay will talk about his group**

**sponsoring.** If you go to the website, I don't have it listed, but it's [www.naaee.org](http://www.naaee.org) you can find out a lot of information about the Conference.

- **Read Charlton asked what would be the typical input of that, development of that kind, I mean, is it a power link-up classrooms for environmental education?** This Conference there will be workshops covering everything from how do you integrate K through 12 education and environmental education, to what you need to do to establish your local university as a higher education center focusing on the environment, to how do we strive for environmental justice in the community. So it covers a huge spectrum of workshops that last for 4 days.
- Also, we're working on building regional teams so that we can network within resources. There's a lot of information out there, there's no need to reinvent the wheel. We're trying to link people up to not duplicate resources, but kind of build a unified voice for environmental education. We also support the VA Resources Youth Education Council which is comprised of numerous state agencies, Parks and Recreation, Game and Inland Fisheries, Soil and Water Conservation Districts, so many that as a new staff member, just a month old, I still don't know the whole list. I haven't quite gotten that down to memory, but any state agency and even federal agency that's active with resource use in the state of Virginia is a part of this Council.
- We also conduct other special projects involving classroom grants such as meaningful watershed education and Parker grants. We support VA Naturally Schools that have agreed to bring environmental education into their curriculum. We sponsor and actually run a 5K race to help raise funds for VA Naturally annually. It is a Groundwater Festival and for K through 6<sup>th</sup> grade educators we produce a Love a Tree Kit which has a significant amount of curriculum in there for K through 6 standards based learning. In Project Underground that Katherine spoke of, Ms. Compton, Project Underground a couple of those projects have been updated and added to the Love A Tree Kit, so it's very exciting to be doing that. In as far as capacity building currently we are developing an environmental educational leadership program to kind of serve as a framework for developing non-formal educators across the state, just to help with framing for organizations saying, 'Hey, we know someone who really does great public outreach stuff, how do we develop them?' So we're trying to create some frameworks for that. Specifically we focusing on the Water Education Leadership Program because at the DEQ water is one of our big resources we work with, so it would make sense to us to develop that a little bit stronger.
- We're also developing the community education program, which involves collaboration on the places we live and if you look at your binder, if you open that up, on the left hand page, first you will see a copy of the Annual Report from last year. If you go to the blue sheet just behind it, I was really encouraged. Take a look at the places we live information sheet because the activities are just amazing. They are catered towards standards-based education, but as, you know, prior experience with community planning, community envisioning exercises, just getting to know your place. These are activities that would be great to help with your water bit, your stream, your community, for a variety of different scales. But I would encourage you to take a look at that when you get home. We focus on training regional DEQ staff so that if you have a question and went by a regional office, we're all able to give you the answers. We really want to expand it so that, you know, you can get the information you need and again, support for regional environmental education.
- If you have any questions, make sure you write them down on these smaller index cards and I do not have a card yet, so this is my information. If you need to get in touch with me, feel free to call, if you want to set up any community education projects with your groups, give me a call and I will be more than willing to sit down and talk about it and see what we can do.

**Jay Gilliam, Chairman, Foundation for VA's Natural Resources Board (FVNR); "Overview of FVNR and Environmental Ed. Initiatives"**

- Our next presenter is Jay Gilliam, good friend of mine, who's the Chairperson of Foundation for VA Natural Resources. He says that he is from the Watershed of the Maury, which is in Rockbridge

County. He's a landscape gardener by trade and he's been a volunteer water monitor since 1991, although he was privileged to be the Coordinator of the VA Save-Our-Streams Program between 1996 and 2004. I think he actually built it in VA, so thank you Jay, well done.

- Thank you very much. And I appreciate being asked to come and talk to you all today. I got interested in water quality when there was going to be a discharge, a permitted discharge of wastewater into my stream, the Hays Creek, which is a tributary of the Maury River and below village near Goshen Pass called Rockbridge Baths. My Mother and Father lived right there in Rockbridge Baths and just less than a mile upstream there was going to be a discharge of wastewater, 100,000 gallons a day from a proposed camp that was going to be built on Jump Mountain, which is sort of a landmark mountain in Rockbridge County and Angela you did a great job. What it said on my card was I'm from the watershed of the Maury River which is Rockbridge County. The only county I know in VA that's basically a watershed. So, the watershed of the Maury coincides with the political boundaries of Rockbridge County, pretty close, not exactly. **That's rare, isn't it?** It is very rare. I don't know any other county in the whole state or country that is actually based on a watershed. It is very fortunate because you've got 1 county, 1 watershed, 1 soil and water district and it just works out very well. Only I appreciate it. But anyway, there was going to be a discharge of wastewater 100,000 gallons a day into the stream that I fished and waded in. It wasn't deep enough to swim. My daughter was 3 years old, but she loved to get in there and catch the crawfish and so forth and what I wanted to know was, what these 100,000 gallons a day would do to the stream. Would it still be safe for my 3 year old to play in the stream? I began to ask questions and I found that the DEQ does a good job of permitting and enforcement, but it probably wouldn't be safe for my 3 year old to continue to use the stream the way we did. I went to the guy who was writing the permit and said, "How can you do this? This is a clean stream." And just like that he said, "How do you know? There's no data, nobody's ever collected any data on that stream and if we don't have any data, we can basically make any assumption that we want to." I was horrified, I thought every stream had data, but Hays Creek in Rockbridge County did not. So I went out and said, well if there's not any data, how can I educate myself how clean my stream is and I found the Isaac Walton League Save Our Streams Program and I became a volunteer monitor in 1991 and I learned to catch the aquatic macro invertebrate who live in the bottom of the stream and based on a calculation, would catch them, identify them, count them, then do a calculation. It would tell you whether a stream was healthy or unhealthy. I found that it was a very, relatively accurate way of doing that and boy, I loved it, because when I was my daughter's age at 3 to 7 catching the crawfish was my favorite thing in the world to do and here I was 45 and they were teaching me to catch the crawfish again, along with the hellgrammites and the stoneflies and mayflies. So it was a very rewarding experience for me and I found that Hays Creek was a healthy stream with consistently high scores. At any rate, I won't go into great detail, but by 1996 I was able to be the coordinator and to promote the Save Our Streams Program throughout VA. I am really gratified that over the last 10 years I've worked in 75 of the 100 counties in VA meeting wonderful people. Katherine and Donna both mentioned Wayne Kirkpatrick, and if there's one thing that you take away from this meeting today, remember Wayne Kirkpatrick. I first met Wayne in Stuart, VA at a training session for Save Our Streams and he didn't say a word the whole day. He smiled a lot, but he never said a word. The several training sessions held down there, Wayne came to all the meetings. Finally I asked, "What do you do?" He said, "I'm a dairy farmer." That's pretty good, a dairy farmer at a training session. Since, over about the past 5 years I've watched Wayne become a real VA leader in environmental stewardship and I can't compliment him enough. He's just a remarkable guy who works very hard from dawn to dusk as a volunteer trying to teach people about how to take care of their natural resources. But I really admire him a whole lot.
- We had a lot of success with the Save Our Streams Program between 1996 and around the year 2000, but around the year 2000, 2001, as you may remember there was an economic downturn in VA and there wasn't a lot of surplus, there was a deficit. And they had to make cuts and I understand that. I believe in fiscal responsibility. But not only at the DEQ, but also DCR, also in local government, it wasn't so easy to cut the regulatory programs, such as TMDLs, it was easier to cut environmental education and the Save Our Streams Program. The non-regulatory side during those 2000 – 2001, '02 the Office of Pollution Prevention at DEQ was minimized down to mighty

little. It was a very important office previously. Save Our Streams, all of our support that we got from the state dried up at that time period. I watched Ann Regn, who I admire tremendously; I watched her staff go from a fairly healthy 6 or 7 people down to 1 person who was working with Ann during that period of time. I was kind of horrified, all of our success was going away and I went, I took this perception in about 2002 I began to talk to my local Senator, Emmett Hanger, from Staunton and I was sharing this with him as it was going on. Senator Hanger had a round table, I hope you are all familiar, you all basically are the round table for the lower part of the Roanoke River Basin, in my opinion and Senator Hanger, the round table that serves the Shenandoah, where he lives, Coors Brewing Company had invested between \$35K and \$50K a year to keep that round table going. It was a very successful round table. Senator Hanger believed in the concept of round tables and barn shed planning and he and I were talking and we're saying, "What can we do? The Shenandoah's doing alright because they've got Coors there to support them, how can we export this idea to the rest of the state?" So over the next couple of years we worked with this idea, 'How can we promote and diversify the sources of support for the non-regulatory side of natural resource protection?' Senator Hanger came up with concept of a Foundation. He did this with Dennis Treacy who used to run the DEQ. The idea of actually using a foundation was Dennis Treacy's idea. So in the 2005 Session of the General Assembly, Senator Hanger pushed forward legislation that started an organization called Foundation for VA Natural Resources and the mandate of that Foundation is to develop partnerships and diversify and increase the sources of support for 3 things: Environmental Education; Pollution Prevention; and Citizen Monitoring of the Environment. Governor Warner appointed a Board and me to be the Chair, in November of 2005. There are 13 citizen members of the Board, each one coming from a different river basin, including the Eastern Shore, the Potomac, the Rappahannock, the James River is broken into 3 because it's 300 miles long, and others but there are 13 river basins total. We have a board member from each one of those river basins. A board member from the Roanoke River Basin is Agnes Anderson in Alta Vista. Her contact information is: business telephone 434-369-6880 and Email [ADowdyRE@aol.com](mailto:ADowdyRE@aol.com).

- As I said, our goal is to support and find new and diverse sources of support for environmental education, pollution prevention and citizen monitoring. We're also very anxious to build bridges between the agricultural community and the environmental community. So we're active, and that's in the legislation, Secretary Bloxom, who's the Secretary of Agriculture, is also on our Board as an ex-officio member and Natural Resources Secretary Preston Bryant makes the 15<sup>th</sup> member of our Board.
- There's no money, even though they created the Foundation, there's never been any state funding for it at all. So this is volunteers trying to get this thing off the ground and as the Chairman I spend an awful lot of my time getting the Foundation organized. We've decided to align ourselves, nothing in the legislation said we had to be associated with any particular state agency, we designed to align ourselves with the VA Dept. of Forestry because, for a variety of reasons, but one of the reasons is that the recently retired State Forester, Jim Garner, is the Board Member for the Middle James and he wanted us to align ourselves with the VA Dept. of Forestry. It was a good idea because they've been very good to us. Particularly their Administrative Assistant is a wonderful lady named Brenda Taylor and she helps me set up meetings and she is just the perfect state employee in my opinion.
- We have developed an action plan. I've got to deliver a report to the General Assembly on January 1<sup>st</sup> of next year telling them what we've done and I wanted to go beyond saying we've developed bylaws and a business plan and so forth. Our short-term project that you all might very well be able to help me with is that we want to raise enough funds privately to send as many as 100 VA Environmental Educators to the North American Association of Environmental Education at VA Beach in November. We've got about 30 environmental educators who've applied to us for scholarships up to \$500 and my job is to go out and find that money in the private sector. That's our 1<sup>st</sup> short-term and I hope I'll be able to say to the General Assembly, 'we've sent 60 or 70, maybe 100 teachers and environmental educators' they might be soil and water conservation district

technicians, they might be state part interpreters or they might be K through 12 teachers. So I'm trying to find business that want to provide this wonderful resource.

- The next project is a little longer-term, over the next 10 years. We've, as a Board decided that we want to make sure that any school in VA that wants an outdoor classroom or access to an outdoor classroom will be able to have it. So that's a pretty big goal. I agree 100% with Donna when she says experience or learning is a very effective and important way. There's a recent book that's been very popular called, *Last Child in the Woods*. I highly recommend it. It talks about the benefits of experiential learning and kids who in there, getting out into the nature and the streams and so forth and learning that way.
- And then our very long-term goal of the Foundation is to try to find private sector supporters such as Coors Brewing Company in the Shenandoah who will support Round Table activities and watershed planning in every of the 13 River Basins in VA. We want to make sure that this is a sustainable policy for the state and think that the Foundation is a good vehicle to make that happen. We've got a long way to go but, in my travels around VA, the one thing I've become absolutely convinced of is that there are people, not people like Wayne Kirkpatrick, but people such as Wayne Kirkpatrick all over the state who are interested in having a meaningful role. The purpose of the Foundation is to provide support for those people who want to change the old environmental dynamics from us against them to we're all in this boat together. And it's an exciting and great opportunity for me to be involved in this. I think all of our Board Members are excited and interested in what we're trying to do. Sometimes I say it's kind of like one of the episodes of my favorite cartoon which is a Far Side. It takes place on a playground in a schoolyard where 2 spiders have spun a web across the bottom of the sliding board and one says to the other, 'If we pull this off, we'll eat like kings.' That's the way I feel about the Foundation, are we going to pull this off or not? I think we will in the long run.
- And the last thing that has not been mentioned so far, which is an exciting opportunity for environmental education that has to do with high schools is the EnviroThon Competition. There are high school-formed teams of 5 members and they study forestry, aquatics, soils, and wildlife all year long with a teacher or coach (it doesn't have to be a teacher it can be an outside person). The teams come together in the spring and have regional competitions, a statewide competition, and then there's a North American competition. The VA team year before last won the whole thing and we always come in very well. **Read Charlton asked where were they from?** Harrisonburg. Harrisonburg cleans up all the time. During the EnviroThon Competition it is just incredibly rewarding to watch these kids get into it. I highly recommend the EnviroThon Competition. It's administered through the VA Association of Soil and Water Conservation Districts and the Department of Conservation and Recreation does a lot, as does DEQ, it's an interagency event. So I highly recommend that and I hope you all will stay tuned to what we're getting done. Thank you.
- Angela said the Foundation for VA's Natural resources is a body politic so they do public notice their meetings of the Foundation and there's representation all over the state.

**Tammy Maxey, Ed. Program Coordinator, Va. Foundation for Ag. in the Classroom; "Overview of AITC and Environmental Ed. Initiatives"**

- Angela introduced the next presenter Tammy Maxey. Tammy is the education coordinator for AG in the Classroom. She's a 20-year veteran educator and principle. She and her husband run a small beef cattle operation. In her duties with AG in the Classroom she develops new programs and activities to share with approximately 1,000 teachers each year.
- Like a good teacher when I come in I always bring my bag of toys to show you all. So I have a bag of toys that I'd like to show you today and a few things for you as well. VA Foundation for Ag in the Classroom (AITC) is a non-profit group. We're heavily funded by the VA Farm Bureau and the various county farm bureaus, women's committees and such to the tune of they provide us with employee jobs, a place to work and things like that, so they provide heavy funds for us. There are

AITC programs throughout the US. They're all run in slightly different manners. Most of the southern states AITCs are run through Farm Bureaus, but as you move westward in the country you'll find that they're run through universities and through other departments. So we kind of help each other along. We usually do our workshops in school levels. We also do workshops through divisions, through universities and through groups, like we may go to a botanical garden or something. Workshops are one of our main themes. The workshops that we usually conduct are for elementary school, as we have a large K5 curriculum. Our K5 curriculum consists of language arts, science, math, and social studies activities. They are hands-on activities, as well as you'll have some make and takes as well as games teachers will do. One of our key pieces for an elementary workshop is our VA map. This is a signature piece for AITC. On the front of this map you see that we have the regions of the state and the various commodities of the state, you can see the watershed slightly as well as the fall line. But the back side of the map is probably what you are most interested in because that does show all your VA watersheds. We have at least 3 activities that go directly with this map and then there will be other pieces. Every teacher that comes to our workshop gets a class set of 25 laminated maps along with several other things to take back to their classroom. Workshops run 3 – 5 hours. We did one this summer in Henry County for a group of elementary teachers. Teachers walk out of our workshop with about \$100 worth of equipment that they can take with them. We also have gardening workshops. That's a new piece for us. Our Garden in the Classroom workshops, such as the ones we've done at Lewis Ginter Botanical Garden, VA State University, and then we're working right now in SW VA on another type of workshop there for gardening, is to teach teacher how to work with students on beginning an Outdoor Classroom; whether that be a soil garden or a water garden. We work with both pieces there. Again, they walk out with a number of sources.

- Then the one that's most near and dear to me, as an old middle school principle, is the Middle School Workshop. Our Middle School Workshop focuses on science in the middle school, 6<sup>th</sup> grade, 7<sup>th</sup>, 8<sup>th</sup> grade, civics, as well as some language arts pieces. The middle school AITC Workshop deals with renewable and non-renewable resources that are going to include both soil and water. It deals with watersheds and this is a very hard area to find activities for, so projects like you have heard about this morning are new and innovative things. Teachers just gobble those pieces up because there are so few to actually teach it in an application mode. One that we have found is the Clean Water Feed. This is an activity book that we give to teachers who come to our middle school workshop. It is a cartoon-base that teaches the various facts about watersheds, very popular.
- And my favorite piece as we deal with middle school workshops is something called Agriculture and the Environment. Agriculture and the Environment works on, again, strain of how do we protect our environment, how do we protect our environment as far water quality, how do we understand wetlands, how about endangered species? Each one of these units within this book is a lab, in our workshops we work on probably going through about 3 labs in the time allotted and give folks a sampling of the various pieces that we have here. One of our newer pieces as well is the ABC's of Agriculture Coloring Book. This is a new piece developed by The Farm Bureau in VA and you'll see various pieces here. This is for our lower elementary students.
- In addition to workshops we keep a website going and up to date at all times. We're in the middle of a mass overhaul, so it's going to have a whole new look in another 30 days. Right now you can go on our website and you can find sample lesson plans, you can find a virtual workshop tour, you can also find links to other resources including our national AITC site. On the national site you'll find some things like contact foods, you'll find some activities for teenagers called EZ in's which are great activities for high-schoolers. We also have our resource list that we give out and we have our curriculum CDs, we have a curriculum CD for the Elementary, one for the Garden in the Classroom, one for the Middle School Group. Our curriculum CD has an SOL-aligned curriculum. Our curriculum is meant to be a supplementary curriculum that goes with VA Standards of Learning. We're not expecting teachers to go out and teach our piece separately, we want it integrated. When you call a school and say, "Hey, I'd like to talk to you about AITC." "Well, we don't have an agricultural department here." "Well, I don't want to come to your agriculture department, I want to talk to your science teachers and your math teachers, teach them how to

integrate things in.” Right now, if you go into a college class of educators and you talk to them about just basic things that they know about planting, growing, watersheds, what a plant needs to grow, you’ll find that they know amazingly little. It is our job to educate those teachers of tomorrow, because for every one of them we impact, that’s 22 elementary children in a year, or 120 middle school children a year. Imagine that teacher’s lifetime: 30 years in education x either 22 or 120, that’s a major impact.

- Pre-Service Workshops are my favorite ones to do, because those college-level students who are about to walk out into the classroom. Their minds are open, they want to accept everything and if you get something into their mind, a tool like this or a tool like this, as a new teacher, they’ll use that for most of their career.
- I have one more little piece to share. We have a newsletter, you have your newsletter stuffed in your little brochure and it goes out twice a year. Our newsletter distribution list right now is about 10,000, that’s a lot of teachers. The one you have right now is our Spring one and it was on Gardening in the Classroom. We’ve done them on Jamestown, the one that’s about to come out right now is on Christmas trees. We have a cultural one that’s going to come out in the Spring. Each one goes with a theme. But those are various pieces of AITC. I didn’t exactly know what you do about it and I couldn’t bring you my whole array of activities this morning, but I thought, “Well, let me just give you a little sampling.” So in your brochure you see some examples of teachers who have been to workshops, you see their pictures, you see their comments, you see a sample of the lesson planner too, with all of the VA Standards attached, you also see places that we’ve been – that’s a sampling of the school systems that we’ve been to over the last 3 years. And I thank you for your time this morning and allowing me to come and tell you a little bit about our program.
- Angela said we’ve had another Committee member join us. Evelyn Janney. She’s a friend of many years of mine from Floyd County and it is nice to see you her again. I was an extension agent in Floyd County before I joined DEQ. She arrived at the most opportune part of the presentation.

**Sarah Baumgardner, Educational Coordinator, Western Virginia Water Authority; “Overview of the WVWA Efforts in Environmental Education”**

- We have one final presentation, she didn’t really know that she was going to do a presentation, but we asked her to come and just do a few minutes. Sarah Baumgardner is the Environmental Communications Coordinator for the Western VA Water Authority. She is responsible for education and outreach for K through 12 in Roanoke City and Roanoke County. She works with civic leagues and water authority’s public relations campaigns. She wants to help customers learn about working with natural resources, particularly water. And she grew up with a creek in her backyard, what we call, what she called fun is now called meaningful watershed experiences. Welcome Sarah.
- Just wanted to share very briefly with you what I do with the Water Authority, representing the Upper Roanoke River Watershed. I’m privileged to have a job that I absolutely love and even half way through the year after I’d spent most of the fall in classrooms, I did go to one of my Executive Directors and say, “Is this really what you want me to do? I’m having a fantastic time!” And it is what they want me to do. I spent a lot of time in classrooms talking to the students to help them understand water, not only from a water quality standpoint since we provide the drinking water for them, but also from a standpoint of how they need to protect their natural resources from environmental impact all the way to conservation. I put together a series of classroom presentations that are structured to the SOLs, the teachers need to have them structured to the SOLs, but I make it real fun, it’s very hands-on and it makes the children really want to learn and understand. I also work very closely with DEQ on several programs. We participate in the World Water Monitoring Day where DEQ and the Water Authority provide free kits from the World Water Monitoring Day organization to the schools. Students go out and do samples in the river, test for pH and dissolved oxygen, and the temperature and the turbidity of the water and then enter their data on that website so their part of the global solution as well.



- I also encourage the students to come out and see us and what I've found is not everybody grew up with a creek in their backyard. Not everybody grew up catching crawdads. And many students haven't been out and it's much more enlightening if they can actually get out in the field. I had a group that I worked with from an inner-city school last year and I saw them 3 times in the classroom and then brought them out to Carvins Cove, which is our largest reservoir and it happens to be a 12,000 acre watershed, beautiful place. We did some watershed demonstrations there and then we went on a short nature hike, which I was amazed to hear the student's comments. About half of the class had never been in the woods. I had a black snake that cooperated perfectly and curled up underneath a Dogwood tree, couldn't have asked for anything better. The students were amazed, we got to see examples of erosion, and they did not know that a dogwood grew on a tree. They knew it was our State flower, but they thought it was a flower and it was neat to see this and talk about this. I saw the teacher at the beginning of school this year and she said her students scored very high on their Science SOLs, so I was pleased, I think I made a difference.
- I also did a program with the Girl Scouts and I partnered with DEQ because the Girl Scouts wanted to focus on environmental education and show women who were in the environmental education field or doing something to impact the environment. So I had 4 or 5 different people from DEQ come out and we did programs at Carvins Cove again, helped the students understand about watersheds and why it's important to protect their environment. We did a litter pick up and the whole program I structured to help meet the requirements to get 2 badges for the girls, so they left with badges and certificates and a real understanding of what they did. Later on I had one of those Girl Scout leaders send me an email saying that they had decided that that was going to be their focus for the entire year and they ended up starting a recycling program to collect trash, they took the money from that recycling program and invested it in some environmental causes and planted some daffodil bulbs, they did crafts with the recycling projects, so it was neat to see that carried on.
- I also talk to adults, because adults do understand the need to protect our environment. I do civic league presentations called, "Behind the Faucet" to explain to them where their water comes from and why we need to protect it. We get water from the Roanoke River, we get water from underground sources, from Carvins Cove, watershed, as our drinking water supply and I want them to know where it comes from and why we all need to do our part – whether it's picking up litter, cleaning up animal waste, not overusing pesticides, testing our soil before we put down fertilizers, that's what these, are some things I do and then you had mentioned science fairs. We do a wonderful regional science fair in the Roanoke Valley and the Water Authority serves as mentors for a lot of the students who are doing water quality type exhibits and then we judge and then we give cash prizes to the top 3 water-based exhibits that we see. So that's a little bit about what we do.

#### **The Environmental Education Program Question and Answer Session:**

- At this point on our agenda I'd like to collect any questions on the little cards, anybody has any questions on little blue or green cards . . . Now I'm going to go back this way and collect the ideas for collaboration or support or sponsorship. Let's start out with the questions.
- **Okay, this question is for, Katherine probably. Is there data available on stream buffers? Is there data? What data is available on stream buffers and where might she find this?** Speaking for the NC portion of the watershed, there's a study that was done by Piedmont Ranking Service that assessed riparian buffers for a more detailed area of NC. They used some aerial satellite data for the VA portion and that's to narrow down more finely to, for example, impaired waterways in VA. We used 2 interns this past summer assess riparian buffers on Jordan Creek in Henry County so we have that to study as well. Other than that I would go folks on the ground that have a good sense of conditions. **John Lindsey asked where in VA would that information be available and would it be applicable to lake shoreline?** The need for buffers applies to all waterways. They had data available based on aerial photography that had red-lined areas. I would check with the Soil and Water Conservation District and the Department of Forestry that have some studies as well. I apologize for not being really familiar with this area of Virginia. **Jay Gilliam indicated that the**

**Department of Forestry does, they've got probably the best website of any state agency for access to information like that.** Read Charlton said I think the riverine buffer might be part of the best management practices they promote for anybody who's involved in forestry. **Chuck Hutsell said it is a best management standard that is not voluntary.** Jay Gilliam asked if there was a **VDOF office in every county.** Not every county but they are widespread. **Read Charlton said VDOF would come out and work with you on your logging and make comments on your stream protection and water quality.** Katherine Mull suggested that people use the Soil and Water Conservation Districts and the Counties who have GIS systems. **Krystal Coxon said on a figure of scales, DCR's Natural Heritage Program does have forest cover layers, but it's for the State, so I don't know how far you can zoom in and what resolution you'd get.** Angela asked does anyone have access to that. I tried to look at that the other day and it wouldn't take my code. **Krystal responded you take their, I think it's like a 3 hour training.** David Ruble said one addition to that, in the classroom is, there's an activity called Ground Truthing, it's done in a couple other states, where you take the spatial data from GIS, according to what they've measured, and you get a classroom to go where private landowners to actually take the measuring tape and measure, like, how accurate is the buffer as to compared with to what we've captured with geographic information, so it's one of the integrations with the classroom for a school project. **Read responded do they actually go out in the field and do this? Yes.**

- **Good, next question . . . Jay, we need the contact for Agnes Anderson.** Her contact information is: business telephone 434-369-6880 and Email [ADowdyRE@aol.com](mailto:ADowdyRE@aol.com) . They also have a great website on the Foundation too, so check that out.
- **The next question is for Tammy. The extent of impact of runoff on stream health, proper fertilization and integrating this with high school vocational agriculture programs.** Really, our program right now is a K8 program and we do several activities as far as, one is called Dilution Solution and that one is how much soil amendment does it take to produce to what you need on a field without producing runoff. That is one of the activities that we do in our middle school workshop right now. And we have another one called, Clean It Up, and that one is about water filtration and how do you correct the problem once you find a problem in your water. So both of those are middle school geared, we really haven't gone very far into the high school earth sciences.
- **Next question, it's about bio-solids. What is the distance from streams and rivers that is allowed to spread bio-solids? That sounds like it's a, that's a regulatory question isn't it?** Jerry Lovelace said I think that's 500 foot, I believe. I'm not positive about it, but I think its 500 foot. **Charles Poindexter replied he thought it is 200 feet from a stream.** Bob Conner said we have a scenic river in Brunswick County, the Merherin River, and the guy that complained the most about making it a scenic river has now treated his pastures with bio-solids all the way to the riverbank and there are streams in there. This has been a concern about bio-solids in the rural area, and there is not a lot that local government can do about it because the General Assembly says they can. They committed to do it and I was just concerned, I wasn't sure what the distance was, but I'm hearing 200 and 500. **Jerry said that 200 ft. is probably correct.** Angela indicated that regulatory program is moving from Health Department to DEQ in January and there will be a panel discussion of an expert panel that's convened by the Governor on September 18<sup>th</sup>. What the panel wants to do is hear about the concerns. I believe it will be in Richmond at the General Assembly building. If you leave me your name and address or email, I'll let you know. **Bob Conner said yes I'd like that, because, you know, they say it's safe, but it's all about politics. Lobbyists went in and sold the General Assembly a bill of sale on this thing that's disposed treated sewage. But you can't graze your cows on that for a year, does that tell you something? 30 days. I thought it was a year. No, 30 days. I hear your concern and maybe it would be a good idea to come and use 3 minutes and express it to the expert panel so that as they're doing their deliberations over the next 2 years.** Bob continued we have a forestry representative here, I don't know if they are encouraging this, but, I'm not going to put it on my farm or in my trees, but they are using it to fertilize the forestry industry. **Angela said yes, I've seen that. They're doing research on that at VA Tech.** Charles Poindexter asked where bio-solids are being allowed in the forestry side of the house. **Chuck Hutsell said it's mainly being done to some of the older plantations.**

**Particularly where you have 2 or 3 rotations and the soils were depleted. It is mainly commercial applications by some of the bigger companies. I don't know any that has been done in my area.** Angela said I hear your concerns about bio-solids and probably that would be another entire set of programs in terms of education and application and the regulations and all the changes. Let's not get too bogged down in that. But there's an opportunity for education about how close to the stream the application can be applied before affecting water quality. **Chairman Poindexter said there's a couple of points that need straightening out I think. I believe that legislation that moves the monitoring ship from VDH to DEQ has to be passed again, does it not twice?** Angela replied no. I think that combining of the joint boards has to be passed again but I don't know about the biosolids program transfer. **Greg said I think you're right, it's just the board issue, the joint boards.** Charles said the point is those of us that this is high interest and we have to work with legislature again to bring about this full transfer to DEQ because when VDH didn't have the manpower, I read the report that showed that they'd only looked at 1 or 2 farms as far as actual random inspections were concerned in the whole state last year. **Read asked about the seminar on the 18<sup>th</sup> of September.** Angela replied they're convening an expert panel on bio-solids, all appointed by the General Assembly and it's on the 18<sup>th</sup> and it's at the General Assembly building something or other and there's an opportunity before the panel begins their deliberations for public input, for public comment. So we're trying to structure this 3 hour meeting so that the expert panel, has already been selected and appointed, can start doing their business and getting to their deliberations, but they need to hear from those of you who are concerned. **Chairman Poindexter said this is the panel set up by the Kathy Byron bill that passed last time.**

- **Okay, next question. Many TMDLs find streams are impaired where the multiple wildlife component alone would impair the stream. Where do we then go? Okay, that's a good question. Anybody?** Chairman Poindexter said it's my question, we ran into in cases in streams Franklin County were even if there were no agricultural run-off, there was no industrial run-off, nothing but the wildlife, that it would still be an impaired stream. **Angela said as I've gone to the different TMDL meetings and the wildlife population can be geese, it can be beaver, it can what was at the meeting we were having that was so surprised? Not mongoose, but muskrats.** Chairman Poindexter said it can be deer, coons, etc., so, in fact, no stream can be a clean stream according to the current definition of clean stream. And what we're doing creating all these buffers along the streams, what does it create but more wildlife habitat. **Greg stated the guidance we've received so far is that we're to move ahead and try to correct the human activities first and then if there are still problems with wildlife, which we know are out there, they're pretty well documented, we will receive further guidance on what to do with those. It's an issue.** Dean Gall said there's a lot concerns expressed about that and computer modeling is what's said that there are still potential impairments. The reality of that computer modeling there's a degree of variability some of these, when we've taken care of some of the manmade problems, some of these streams will get de-listed as probably without having to worry about the wildlife. One of the things about the wildlife though, that although these court orders were generated, that does not increase population and so the water quality impact does not necessarily improve in correlation to the fact that we're developing that corridor along that stream that it's going to cause the water quality to be any worse if that buffer weren't there. Cause the numbers are not going to increase. The population of those animals is going to be based on other factors rather than just that wooded corridor being present, so that's not necessarily going to make it worse. That there are a lot of misconceptions of the TMDL process and what the numbers are trying to say. As we hear the outcome of this we make some conclusions that aren't necessarily what was really happening on the ground. So, we're hoping that we can get these streams de-listed by taking care of a lot of the human problems. It doesn't mean it's hopeless and we're going to give up on this, we've made significant progress. At a lot of these meetings people just want to throw their hands up, well if the animals are going to do it, why should we bother doing any of this? And that's not the message that we really want to be trying to get out there. We want make these other improvements and it will make a significant difference in the quality of the water in the streams. We don't want to give up on it. **Angela replied thank you and Greg said, "We'll first work on the human impacts and then we'll work on the animal impacts."** So that's a good sequence. **Good question.** Evelyn Janney stated with coming in with that, you've got to be real careful that the clientele are your farmers, aren't already up in arms because of the comments that get made. It's like, "wait a minute, you're trying to drive

us off the farm.” I know some of that happened in Floyd. You have to be very careful. **Angela responded you’re right, you have to be careful about how we frame it. Thank you.** Bob Conner indicated it concerns me that people get the idea that the farmer is the one that’s creating all these problems. The great majority, 95% of the farmers, are great custodians of their land. Most of the farmers in my area have sealed off their stream, their ponds, and they have a fresh supply of water for their animals. So I don’t know what better custodians than farmers of what God has provided us with. People in the cities may get a different view of farmers, but if they’d come and stay with them for awhile they would completely understand. We were talking earlier this morning, we the people in the area in farming, we plant for wildlife, we do all kinds of things, forestry and so I think it’s a misconception out there on the farmland in VA. **Thank you. Angela replied I hear you saying there may be an opportunity for collaboration in getting that message out or for education and maybe getting some people out to the farms to take a look and see some model farms like; so there’s, there’s if there’s that misconception, which I’m sure there is, how do we change it? That’s what education, that’s adult education, youth education, so there may be some opportunities to work on that, or support efforts that are promoting that. Thank you.**

- **Next question: Watershed signs for the Roanoke River Basin? Krystal, do we know what DCR’s doing anything about that? Or is anybody working on watershed signs?** Greg stated the question is do you know how DCR’s involved in the watershed signs? Dr. Cutler approached me a few weeks ago after he had been talking to a few people, and he’s brought up this idea before the Committee several times about when we go to Chesapeake Bay Watershed there are signs everywhere, but we go into Roanoke, it’s like you’re dropping off the face of the planet. So I started with VDOT and now I believe my questions been referred to Russ Baxter at DCR, which was a big surprise to me, but I can see where it fits. And he has tried to call me and we’ve been playing telephone tag and I was just curious to see if he knew how DCR was involved in the signage on the highways. **Dean Gall said there is an agreement with VDOT to put the signs up throughout the Roanoke River Basin and they will be located near more populated highway traffic areas.** There’s already an agreement in place? **Yes, I don’t know what the time table is, but the signs are to go up statewide. Locations have been chosen where the signs should go. From my understanding is that there was money appropriated, the list is made, now it’s getting that money to VDOT and VDOT getting the signs up.** Angela said I’m pleased to hear that, that’s great news! **It’s on a spreadsheet. The locations are on a spreadsheet. Doug Fritz, in our department, is taking care of this.** That’s great news. Thank you.
- **This is another question: Hyco Lake and Mayo Reservoir – are these water supply reservoirs? Any other uses, in other words, power generation, re-generation, co-generation? Is there anyone to address this one?** Katherine Mull answered the Hyco is for Power generation and it’s known to have warm water year round and the Mayo, let’s see I think they are both for recreation also. **Jerry Lovelace said I don’t believe they are municipal water supplies.** Angela asked who owns that. **Jerry replied Progress Energy.** Chairman Poindexter said I guess the other part of that question, that’s way down in Roxboro, NC. We have a South and North Mayo up around Stewart – is there any connection? **Katherine Mull said no, it’s very confusing! Thank you! I didn’t think there was any connection. But it’s the same Mayo as the Mayo Island in Richmond, the Mayo Island in the James in Richmond and William Byrd, because they were surveying the NC/VA boundary line in 1728.**
- **The next question is for DCR, are there any programs for suburban or urban residents on lawn fertilization?** Krystal said there aren’t any programs similar to the Adopt a Stream or the Storm drain Stenciling programs. We have literature though, brochures, and online information about non-point source pollutants and urban areas fertilizer. That one brochure that I mentioned, the VA Year Round Guide to Yard Care is targeted mostly to urban audience. I have lots of copies here if someone wants that. We are distributing these to, we will distribute them to soil and water conservation districts and any groups, anybody who wants to use them. We don’t have a program to review it with people specifically. **Chairman Poindexter said I asked that question because the agriculture community has been targeted as reactive, we’re working hard on it, the industrial community has been, but we’ve not done anything to all our cities and our suburban and our**

**subdivisions for the most part. That's a whole big area out there.** Angela said that is a good point and maybe we can get some of these things published and to you. Or maybe it's a possible program. Thank you.

- **Another question: AG in the Classroom, are the school divisions really cooperating or is this just lip service?** Tammy replied I think school divisions are really cooperating. For example, if you get a Superintendent to buy in or a Director of Instructions buy in and we have a large workshop, 100 people recently in one and then there was another one with about 75 – that's a pretty good amount from 1 school division. Then often times what will happen is that Farm Bureau will ask folks the next year, "Would you like to come back to our annual meeting and tell us what's going on with AG in the Classroom?" And so that will ensure that, yes, they are using that curriculum in their classrooms. **David Ruble said I can give a testimony on that. In my high school in Wythe County back in '98, they've got a pretty good agriculture department and I don't if AG in the Classroom existed back in '98, but we all looked forward to AG Day which was the day that we all got out of class to go participate a field day backing up tractors and trailers. There were a lot of agriculture focused activities as well as the state agriculture.** Tammy Maxey stated those are still very popular, now it's more so at the elementary school level and they'll do those either in the fall or in the spring and it'll be a very large event. In Henrico County and in Hanover County they do it for just one grade because they are such large school divisions and they'll have folks in, they'll have us in but they'll also have folks from Master Gardeners, from DEQ, from Forestry, they'll have a whole big full day of it and that is an example of many organizations working together on those days. **Bob Conner asked is it true that the size of the program is based on the local Farm Bureau extent of involvement?** I think the local Farm Bureau has a huge piece and that, the biggest piece of that is probably to have their Superintendent and their School Board on the side of, 'Yes, we want to promote agriculture in our schools'. So that's the big key of our success, having those 2 bonds very close.
- **This one is for Donna, who would like to know the scope of the international emphasis of the work that you're doing with the students. Like international emphasis, just domestic? Just local?** Oh, it's pretty local right now. We haven't, like I said with Science Fairs, we want to keep expanding it, but it's local. Yes. With the Dan River Basin Association and the local orthodontist working with us. **Charles Poindexter said I just wondered if there was any thrust at all past a locale. I didn't think there were.** No, we would like for that to happen.
- **Okay, one last question here and then, if anybody has anymore I need to collect them, did I get everybody's questions? What is the position of The VA Foundation for Natural Resources regarding the use of bio-solids?** Oh. We don't have any position; we're not an advocacy group. So at this point, at some point in the future The Foundation might very well be a source of information for people to go to educate themselves about the issue, but at this point we're not at the point, we're not to the point that we're pointing people in that direction. **Bob Conner asked do you have a position, if I may follow up on this, in reference to discharge in the streams?** Jay replied I want to say, you know, that, in terms of discharge in the streams, that is a responsibility of the DEQ and we assume that they do a very good job of writing permits and enforcing them. **Bob continued so you all don't come active involved if someone calls and says we need a study of the water or so forth?** No, but now the VA Save Our Streams Program, which is one of the programs that The Foundation will eventually support, that would be a great place for a person who is interested and concerned about how clean the water is in their stream to go and get involved in that, either as a monitor or just to find out the results of citizens data collection in that particular stream if there is any. **Read Charlton stated I think we had a representative from Save Our Streams who spoke to us about a year or so ago.** Greg said it was Wes Jarkowski. The thrust of that discussion was that if you had a stream you wanted him to come down and take a look at it, he gave you a phone number. **Yes. If anybody is interested in the condition of their favorite stream, they can go to their local leader, which Wes Jarkowski is the leader for the Upper Roanoke Basin at this time and Wayne Kirkpatrick is the leader for the Lower Basin, and through that person they can access information, existing information, both from the agency and from citizen monitors, or they can also take it a step farther and become trained to be a**

**citizen monitor. And I highly recommend it. It's a great way to be involved in a meaningful way and establish a baseline of information. As I said, my little creek that didn't have any data, I now have 44 monitoring events that show that it's a good clean stream. It's highly respected by the state agencies as well.** Read asked what happened to those hundred thousand gallons of waste water they were going to dump in. **I'm married to the meanest lawyer in Va and they found some where else to do it.** Bob Conner said I won't take anymore time with this but your interest started there with clean streams and keeping that thousands upon thousands gallons of whatever out of there, why are you not, your Foundation or group is not concerned about bio-solids and other pollutants that go into streams and creeks. **We're concerned about it, but our mission is to diversify the sources of support for the non-regulatory side of natural resources and protection. And so, as such we're not in a position to take an advocacy stand, you know, on, you know, such as Chesapeake Bay Foundation or the Dan River Basin Association might. You have to show that you're a non-advocacy group. I have a personal opinion and I've tried to educate myself over the years about the permitting process and so forth, but the Foundation itself is in its infancy and we've chosen to be basically a source of information and a source of financial support, so that's why we have not chosen to become advocates.** Dean Gall said he would like to suggest that if bio-solids has not been a topic at a meeting that VRRBAC consider making it one, especially with the changes in the program being transferred from VDH to DEQ. It is important to get all the facts out. This basin does receive a lot of biosolids from in-state and out of state. More will be coming in. There is so much misinformation, so many untruths in all directions. I think it would be worthwhile for you to discuss this where the truth and facts come out so that people can make good decisions. **Bob Conner said several years ago I served on a Water Policy committee, DEQ had to borrow money or didn't have money to meet payroll one time it was coming up. It is great to start all these programs in the State, Mr. Chairman and you may be down there come January, to have all these different programs, you're going to transfer this from the Health Dept. to DEQ, when you do that, do you give DEQ enough personnel and people that can go out in the field to make sure that these things are being done properly and meet with communities and address these issues and clean them up. I don't care what the problem is there is never enough people, and I know for a fact that DEQ does not have the personnel, you're supposed to have personnel to come out and check bio-solids, the State of VA said, "Yeah, we got them. Well, where are they? You don't have enough to go out. And I'm not out after any department. It's just a fact that the State will not support personnel for all these things.** Greg said I believe DEQ got 20 new people and Angela added 13 would be in the regions. 7 are, like, experts, support staff kind of like specialists. **Dean stated that there's also funding for citizen monitoring too.** Chairman Poindexter said lets talk about this being a future topic for a meeting. Is that agreeable? **Yes.** Read Charlton asked Mr. Chairman, do you think this meeting on September 18<sup>th</sup> would be beneficial for any of us to go up there? **Angela said I'm not sure if public comment is going to be wide open, but there will be one hour of public comment.** Chairman Poindexter said this is a task force set up under that legislation. **1 hour of public comment, that's it. So, from then on it's up to them, we just get them started, but there will be 1 hour of public comment at that meeting. I helped to set that agenda.** Chairman Poindexter said one of the focuses of that group and that legislation was to try to identify potential health impact problems from bio-solids and we probably know what the answer's going to be to that, very little if any. I am not going to put a lot of stock in that one meeting. **Angela said and Evelyn was asking whether you could do written comments and they have not said we could have written comments, it's only if you come, you want to address the panel, you have 3 minutes.** Bob Conner asked is this elected officials on the panel or citizens throughout the state. **It's appointed experts in the field of bio-solids, and health, and environmental impact. And I think there are 20 of them.** When you leave the citizens input out they should have a few. **Angela said I think there are 3 just citizens in general.** I can't remember exactly, but it was very careful pulled together and I don't have their names right now, but I'll get that to you, I've got your email. Read stated so, if you want to get educated on bio-solids this may not be the place. **Angela replied this would not be the place. This is where you say your opinion to the expert panel as the expert panel does their work then you'll probably want to read their annual report that they submit back to the General Assembly.**

- **Final question: Is it true that VA is ranked 50<sup>th</sup> among the states relative to natural resource initiatives and funding?** Jay Gilliam stated it was true about 4 or 5 years ago. I heard it over and over again 4 or 5 years ago and I asked where that fact came from. The explanation that I received and I can't repeat it at this time satisfied me that it was a very well-researched. Since that 4 or 5 years ago, a lot of things have changed and so, I don't know whether it is still true. **Walter Coles said I heard it in a meeting last week that it was true.** Angela replied we're not top by any means. We may not be 50<sup>th</sup>, but we're between 45 and 50. We are not, among all states, in funding for natural resources VA, even with all the different agencies that we have, doesn't come close to a lot of the other states. So, in terms of if you want to really be, and you guys can be advocacy can't you, if you want to be supportive of funding for natural resources, we would all be very grateful. Walter Coles responded it's more than funding. It's got to be more than funding, you know, if these programs like this really work, if they're working and then maybe we will reduce. **Angela said there's a lot volunteers working in natural resources. How many water monitors do we have?** Jay replied all the water quality monitors with programs like Friends of the Shenandoah, the Alliance of the Chesapeake Bay, and the Save Our Streams Program, it's approximately 1000. **Angela said volunteers who go out on a regular basis, volunteering to monitor water quality.** Jay stated Save Our Streams has 350. A couple of years ago we were approaching 1,000 when you put everybody together. **Angela indicated they do it both by monitoring the little stream bugs and then some of it's chemical, so they have 2 different kinds of stream monitoring, but they're really good.** Walter Coles asked so, then you're saying they're also monitoring for heavy metals? **Jay replied no the technology for metals is too sophisticated. A good example is in the Shenandoah River where they've got 2 or 3 hundred people monitoring chemically, they are monitoring for nutrients, dissolved oxygen, pH, sediment, etc. There is, but with metals, that is a, requires laboratory equipment that most colleges don't have and so I would say that DEQ does 95+% of the monitoring for metals in VA.** Read Charlton asked have they identified the fish kill cause. **Jay replied no and they're very frustrated. They know that the fish in the Shenandoah, which it's also spread to the James now, are under severe stress, they don't know what the source of the stress is and I'm feel real sorry for the scientists that are working hard on it because they're extremely frustrated. They've ruled out many toxic sources of stress.** Angela stated they have a science team that's working on that, the South River Science Team, and we still don't know. But about the water monitors, there's a website that shows every place where water's being monitored and you can click and it'll show what the results have been over the past. **Jay indicated the website is [purewaterforum.org](http://purewaterforum.org) and it's called the Fish Kill Task Force.**
- Angela said okay, can I ask permission to summarize these collaboration ideas and present them back after lunch? **Chairman Poindexter replied I think we should.** Angela said these are the ideas for action. If we finished the questions and then I think we also have a little presentation by our host before we go to lunch?
- Jerry Lovelace said oh, yes. It's going to be short. I apologize but I'm going to ease the pain while waiting a couple more minutes for lunch. Janice if you would please? Never let it be said you came to Halifax and left empty-handed. Besides giving you a hard time, we're also going to give you something better. This is a little something to remember Halifax by and to encourage you to be a good tourist and you know what a good tourist is, that's someone who comes to Halifax County and you leave all your money and take all your trash. We did want you to have a little goodie bag to kind of remind you of us. But I want to say a couple of things real quick, some of you might have to leave at lunch and I wanted to make sure I caught you before you did. It's been my privilege to be involved in, as a spectator more than anything else, but also as a participant in one of the sub-committees since this group formed and I'm going to be retiring October 31, Halloween is kind of appropriate, I'll be spending my last week at work in the Invisible Man costume. But I want to make a couple of observations on something. First of all, make sure that the members of the Committee know that as a citizen of this Commonwealth, I'm very appreciative of what you're doing. I know for the 1<sup>st</sup> year or so they wouldn't even pay your mileage to come to these meetings, but you've gotten that and they're feeding your lunch now and hopefully that'll get better, but I really appreciate what you're doing. It's critically important and I want to tell you one quick little story and it kind of fits in today, we're talking about education of kids.

- Ten years ago my 8 year old niece from NJ came down and spent a week with us and the only thing she knew about rivers is what they looked like when you ride across a bridge and you look down on it. So we took a canoe trip down the Staunton River, by the way those of you that are not from here, Staunton is the proper name of Roanoke, not the other way around. And we'd been out, just got out the side of the boat landing, heard a rustling in the trees and we looked up and an eagle comes out of the tree. Comes right at the canoe, looked like a C5 coming over. But came right to the canoe and turned and went down the river, flying about 200 yards and stopped. We get a little closer and it would fly about another 200 yards and stop. Well, my niece turned around and said, "You have eagles here!" I said, "Yes." She said, "I thought they only lived in Washington, DC." And I'm not making that up, that's sad folks! So we did a little education that day, we got home that night and she called her Mom and her Mom said, "What did you do today?" And just the excitement in her voice, "Mommy, we saw an eagle today!" And she talked about it and her Mom said, "Well, what else did you do?" She said, "I learned how to pee in the woods!" She hasn't been down to stay with us anymore. So we taught that kid very valuable lessons. But education is important to kids and I'm really encouraged by what you're saying.
- Now, I'm going to be the critic. I'm married to a teacher. All of these things you're talking about doing in the classroom are wonderful, but if you're not a teacher, please put yourself in a teacher's position. And I tell my wife this, I said, "You were a teacher for a lot of years and you're not a teacher anymore." And she says, "Well, what am I?" I said, "You're a test tutor. Between SOLs, Yaps, Benchmark, all a lot of teachers are doing now is preparing kids to take tests, they're not educating. Think back to when you were in school versus a lot of what's going on now. When you're making all these great plans for teachers to do, they're wonderful, but remember their time is a little bit limited. I applaud what you're doing and what everybody's doing in all the counties, but just keep in mind, you know, teachers have 5 hours of work to do in a 2 hour period, sometimes and it don't work. And one other notion I'll dispel, you think teachers work 9 months out of the year? Go talk to one – it doesn't happen. But anyway, a couple of other quick thoughts.
- I would be remiss again saying that I don't know what my participation will be later. Gerry then complimented Greg on his work with the committee. In the last 30+ years I've worked with a lot of state bureaucrats. Bureaucrat is not a 4-letter word, bureaucrat is a good descriptor. I worked with a lot state bureaucrats and a lot of local bureaucrats too. Some of them are putting in their time and some of them avoid the extra mile, but this man is doing a good job for you.
- One final thought, two final things, first, bio-solids. I have to get my comment in on bio-solids. Halifax County has had bio-solid application for 25 years. We've had 1 adverse incident in that time and that was a problem with the company that was handling the distribution. But, bio-solids is like operating a grocery store folks, if you do it right, there are no problems. Never have been, you screw up, yeah, there are problems. But bio-solids are a good thing, if they're done right and I'll leave that alone now. Get off my soap box. But one final thing, again from my personal standpoint, to the members of this Committee, it's been my pleasure to work with you, to participate with you, to work on the River Sub-Committee with Watt Foster, I hope I can be involved in the future, but I really appreciate everything you are doing. Please don't be discouraged by NC's lack of initiative and progress, what you're doing is important to VA, hopefully it'll be important to the bi-state area, but if they don't participate, well that's too bad for them. We're doing good stuff here. I hope you'll continue to do it. Thanks for coming to Halifax and please come back again and enjoy your lunch.

#### **Discussion of Environmental Education Opportunities**

- Chairman Poindexter said let's see, we still have to cover the collaborative ideas that were written on the green cards. Angela is going to lead us through this.



- Angela said thank you. Okay, I think I'll start out with a statement that was made here. It's not so much a suggestion for collaborative work, but it says, "Hats off to Henry County, our generation hasn't done very good job regarding the environment, it will end up to our grandkids, it will be up to our grandkids to save the oceans, the streams, the forests, and the something, and overall environment, and the overall environment. So let's work with the younger people." That's a statement; our generation hasn't done such a good job.
- Okay, this one is about Donna, let's share her enthusiasm with the other school districts in NC and Southern VA and have the Dan River Basin Association facilitate maybe a technology transfer, help with teaching, help to get the teachers to buy-in across the whole River Basin. I like that.
- This one talks about meaningful watershed experience. There are partnership opportunities with the Department of Conservation and Recreation. Possible focus could be on impaired waters and other segments and link these to the DCR State Parks and Natural Heritage data. For example, focus on sensitive species. Also connect the Water Authority with the classroom program and include storm water information in presentations. There's a potential partnership with DCR. **Sarah Baumgardner said we actually already do.** Okay, well well. **Even though we don't manage the storm drain system, you need to understand water lines, sanitary sewer and storm drain to get the whole picture.** Maybe there's an opportunity to do that in other water authorities. That's a good idea and I'm going to take that to water supply planning team too.
- Link Trout in the Classroom in Halifax County with a local trout hatchery at Brookneal. **The hatchery at Brookneal is not a trout hatchery.** No, that's striped bass. **Still they can see they bring the bass right out of the river bass and they have these huge tanks, the tank is about the size of this room, I mean these fish are swirling around are fascinating.** You know that if you don't bring them to the classroom, you can bring the classroom to the fish hatchery. Might be a good tour. **Jerry Lovelace stated they do education programs like that at the hatchery.** Good. And that may be something that we want to collaborate on.
- Okay, Henry County schools work with DCR to add Adopt a Stream program and adopt the streams that the school is testing. That's a very good idea.
- Okay. Storm drain stenciling, we could expand to add that into the county school program as well.
- Need to branch out to the community work, fill in the black hole. If you look at the map of VA and all the environmental education and environmental groups across the state, this particular area of VA is almost a black hole. There are hardly any environmental organizations and there are really not a lot of trained water monitors. So there's lots of opportunities in this area and that's, I think, what we call a black hole. By advocating citizen monitoring, we need to branch out to develop the economic piece. Which I think you've done very well.
- Add buffer work and planting trees along the streams.
- Work together on grants. You know what I mean? Even though you don't have money as a Commission, you've got a lot of influence that could help by adding support letters to some of these grants to some of the organizations.
- Investigate what local higher education institutions are doing in environmental education. What higher institutions do we have around here? Community colleges? **Jerry Lovelace replied in Halifax there is the Southern VA Higher Education Center, which is similar to a community college. Then there are community colleges in Danville and Martinsville. Plus Berry Hill Mansion has just been purchased by a new university called Founder's College and I'm not sure what their curriculum is. This fall is their first year.** Well, so we could check and see what's going on in those institutions about environmental education.

- Henry County could add or expand with Ag in the Classroom to the Middle School with SOS and Trout in the Classroom. Workshops for Middle School teachers. There's lots of take aways for the school system. Striped Bass Hatchery in Brookneal could be visited by Henry County Public Schools. Collaborate on the TMDLs, maybe you mean the river clean-ups after the TMDLs have been established and then monitoring the correction, monitoring the progress toward the clean-up, or maybe it's in TMDL development. I'm not sure, but probably work with the TMDLs.
- The Staunton River State Park, recognize that that's one of your resources. **Read Charlton mentioned that was the park I was thinking about. I've been over there a few times, they have cabins. It would be a great place to have, you know, for a high school class go over there and just learn about fish, the eagles, siltation, etc. There are a number of different disciplines you could get into there.** Very good. That's a good example of location where you could hold an event that would focus on. **It is right where the Staunton and the Dan Rivers come together.** Jerry Lovelace said the park already does some similar programs. We're talking about collaborating and sponsoring some additional efforts maybe with the schools or with some community groups, you know, to maybe expand and help them.
- November 14<sup>th</sup> – 17<sup>th</sup> don't forget VA Beach, that's the North American Association of Environmental Education.
- Angela said Riverkeepers. Do we have a Riverkeepers project here? **That was brought up at our last meeting and if I'm not mistaken, Mr. Chairman, did we say that for the Roanoke River to have a position, but it's not a paid position?** Chairman Poindexter said I remember us discussing. **Greg said there's not a Riverkeeper for the Roanoke River.** There's one for the Rappahanock. Angela said well, that might be something. Okay, so might be something you'd want to look into is, and that's a paid position, right? Yes. So someone is responsible. **Chairman Poindexter said it is a paid position, but it's not a position that is with the Commonwealth.** It would be a great idea to have this guy patrolling the Basin from Albemarle Sound up to Smith Mountain Lake in a little, you know, 18 foot john boat and paddling along. Angela stated Katherine used to be a Riverkeeper, so let's hear from her about what it was like to be a Riverkeeper. **Actually, I got the Potomac Riverkeeper started. I was a volunteer river keeper for a while and raised the money to hire someone. Basically it's enforcing the science of law. It's like a neighborhood watch for a river. You're patrolling the river looking for problems, seeking solutions. Some of them are very aggressive and have a litigious sense while others are very cooperative. There are very different models for it. In fact, DEQ has funded a VA Coastkeeper on the Eastern Shore of VA and that's a very cooperative model for a Riverkeeper. The James River Riverkeeper is also another example of a more cooperative relationship Whereas there are others suing. But they are very effective, they basically use science and law to enforce the Clean Water Act and to protect every child's right to fish in the river. It helps make the rivers safe for people, plants and animals. There was a discussion on having a Dan Riverkeeper, but the organization wanted to work more closely with the localities in more cooperative ways opposed to advocacy. But they're very good!** Angela said so that's another opportunity for some action by this group or collaboration.
- This one says on the topic of community education, we can have model farms for improved environmental quality. Like having an environmental farm doing best practices and feature that. Krystal Coxon said that there's a farm award given out by the Soil and Water Conservation Districts.
- Field trips to the Brookneal Hatchery. The School Division Administration needs to be brought on board. So that would be some communication there. It's great to have so many organizations working towards the same goals. Is a new organizational structure needed, or would another structure, like advocacy, be more effective? In order to do advocacy you kind of not have to be the types of groups that we're with. We are the educators. You guys can probably do the advocacy. Is one of their roles advocacy? **Chairman Poindexter said it's my question and where I'm coming from is that there are Dan River groups and Roanoke River Round Tables, its all sorts of**

organizations. What is the most effective way for the mission to get done? Or do we stay the way we are, I don't know. But we have lots of different organizations, we have State government involved. But there's really not much opportunity for the advocacy program. And you can't answer that question either, and neither can I. That's a good question. Jay Gilliam stated because I've worked with the various Round Tables in different parts of the State, every different part of the State, and all 13 different river basins in VA, I have watched the 1<sup>st</sup> Round Table get started in the Shenandoah in 1996 and my perception is, is that when you have the agricultural community represented with your Round Table, when you have the local governments, grass roots groups, state agencies, colleges and universities, then those people have a place at the table and an opportunity to give their perspective on a particular issue and whether or not the person with the Farm Bureau agrees with the person, for instance with the Shenandoah, they still provide a place that they respect each other's opinion and that's where I see the effectiveness come from the concept of Round Table. As I said, I think that your, this organization serves the purpose of the Round Table for the lower part of the Roanoke River Basin. I'm thinking also that I'm fascinated by what I've just months ago when I realized that the Roanoke River Basin, in terms of numbers of municipalities, it's the largest in VA. So I think it's appropriate to split it in upper and lower portions. You know, hopefully there'll be good communication, but again, I think that if you, my opinion is, is that if you, at your table, if you have a place for agriculture, local governments, which you've already got for sure, the grass roots groups and the colleges and universities that that would maybe make it somewhat more effective over the long run. Angela said I think it's a good question for the group to discuss. That's the end of the green idea sheets, action sheets and I'll turn them over to Greg for the record. And at this point, I'd just like to say thank you to the panel members and thanks to Greg for inviting us. Thank you, Mr. Poindexter, Chairman, for having us. **Chairman Poindexter said for each of the speakers today, thank you. It was all great. I am still enthused about Donna's this morning. You got us off to a good start today. Thank you all for bringing your expertise to us.**

#### **VRRBAC's Mission:**

- Chairman Poindexter said let's continue our discussion of the last couple of meetings on our mission itself. We've been talking about NC standing up and some other things that we should be doing. We had a Brownfields meeting here in Halifax back in June. How did that go? I heard attendance was good. **Read Charlton said the one thing I remember from that meeting was the President of the company in Buena Vista coming down and he explained about the work at his site in Buena Vista. They used to make military ponchos at the factory in this town and they now use that plant as a recycling computers and automobiles. It was fascinating hearing this man discuss the question, you know, the things they get out of computers. They had several other representatives and some other people there.** Greg said the feedback I got from the meeting was that it was very well received and I thought it was pretty well attended. We had about 24-25, people besides presenters there and everybody asked a lot of good questions. The presenters did a very good job. First DEQ people came in and laid out what the Brownfields Land Renewal program was all about. Then we had the City of Roanoke talk about their experience getting grants and re-developing brown field areas in Roanoke. We had Charlie Williams, who was the Environmental Attorney has worked with a lot brown field sites. He displayed photographs and showed people actual sites before and after cleanup. He gave his opinion on how things have changed over the last 10 years in the environmental arena, particularly the regulatory arena, to allow these things to start happening. He said 10 years ago you couldn't have re-developed a brown field property because of the regulations and the attitude of the regulators. **Chairman Poindexter said liability, liability.** But now we're getting to those issues and it's possible to do. Then we had Paul who owns Auto Recyclers up in Winchester and he has now purchased this place in Buena Vista and he's recycling computer parts, as well as automobile parts. He was able to salvage enough piping material out of that old building and recycled it to pay for his cost to refurbish that building. **Chairman Poindexter stated I think, the point for us though, alright we made a stab in this part of the river basin at bringing attention to brown fields and what could be done and some local governments and local people in this region went back home knowing that they had the opportunity to try to re-use some of it. Do we try to do this further on down the basin or up**

**the basin? Is there any benefit to another educational meeting like that for say, further down? I don't know that area as far as old brownfields what it's like down there. I know there are here. It's the reason I wanted it right here.** Bob Conner responded probably every locality got to a brown field somewhere or brown fields. So, the more the public is educated on the fact that, you know, they're not going to be penalized if they come forward. Emporia, VA is probably a good area, but I'm thinking about having them come and make the presentation to our board. **Okay, that sort of covers that area. It would be open to the public and we wouldn't necessarily need to sponsor one.** John Lindsey asked if this is something that would be appropriate to take to District Commission. **Well, we did last time. The Planning District Commission last time was behind setting up this meeting and getting the people here and so forth.** Okay. **When is that going to occur, Bob? I mean, in the near future?** Probably not until after January, after the elections, see what it does to the Board down there. I don't know what Planning District set this up, but Southside Planning District so we probably work through them to have them come in. **Jerry Lovelace said I think you're right, that's probably the best way to do it.** In doing that we get 3 counties involved and several towns involved for representation **Jerry Lovelace said most planning districts, at from the ones I've talked to around the state, they're always looking for people to do presentations at their meetings for education and whatnot. So it's possible, you know, statewide applicable.** Chairman Poindexter stated alright, so we leave Brownfields at that for now. Okay.

- Chairman Poindexter continued how about today? I think it was very informative. Can we think of any actions that we need to take, should take, or just ideas at this point and time to facilitate further education in the schools? **Bob Conner stated I think Jerry made some real valid comments. I'm not an educator but I have an Aunt that retired teaching and there's so much emphasis today placed on SOLs and I'm not going to echo what Jerry said his wife is a teacher. Kids have got to understand what nature's all about. Take them out fishing, take them out. They get the best education walking through the woods and they get the best education hunting, fishing, out in nature. I think it's too much emphasis placed on and the responsibility on the teachers to make sure that class is going to be at the tops of the SOLs. When we were coming along, my generation, we didn't even know what SOLs were. I think we've done pretty good, pretty good as we've come along. I think education in the school really, in the Henry County doing an excellent job. What I saw this morning's presentation, the person is enthusiastic about it. I think we need to get to the state Superintendent to say to the local Superintendents this is something that we need in our schools. This is getting beyond the Roanoke River Basin so, I just wanted to add those comments Mr. Chairman that I think it's more to it than the teachers. I do too. I was especially interested in the lady from the AITC, but I've seen cases where school Superintendents have just basically told teachers, "We don't have time or we're not interested." I don't think I want to blame SOLs as it might just be individual perceptions. Read Charlton responded Mr. Chairman, a lot of our schools now are putting all this emphasis on computer training and the kids spend an awful lot of time, you know, exploring these great electronic gadgets and everything. As a result they don't get out and make these field trips. The outdoor classrooms, they don't get out on the road, they just don't. When I was growing up in Boy Scouts, you know, it was all outside. There was a lot of education about nature and what was out there came from that. What Bob says is very appropriate.** I think in reference to our mission, we have talked about it a number of times, but I'm pretty well convinced, since my District joins NC the Warren County district, and that NC is ever going to cross the lake and extend the right hand for a meeting for this reason. We're all in a drought situation now and I get the Carolina News. All I see on that is their lakes are drying up. They've got restrictions on their water, etc. From Henderson, NC everything that runs from Henderson to Raleigh and is going to meet. They want the water from the Roanoke River Basin and they're going to get the water from the Roanoke River Basin and they're not going to meet with us. I've tried to get the Delegate from the Warren County side to meet and always in session General Assembly. So I'm kind of putting NC out of my mind and want to address the VA issue now Mr. Chairman. We've had many, many meetings and we've come a long way. We've discussed a lot of things and pretty many of these things have not been etched in stone yet. What I mean by that is that the General Assembly has not taken action on. They have not said the Committee report is fine, and we're in agreement with this and we're going to put something on the books. We were all appointed to do our job and we're

trying to do it and I think we should continue. At one time, I'm being candid, I felt like we weren't getting anywhere and that I was really just wasting my time. But by doing that I'm not doing the folks right on the Roanoke River Basin and in Halifax and the people we represent. So I'm here for the long run. So what I'm saying is that it's time for the General Assembly to look at our stance and say, "Okay, we agree with you that no inter-Basin transfer of water should take place unless a certain amount comes back into the Basin. We are on record for that." And there are some other things also. **Well, what the situation is, an election year and so forth. I'm going to suggest we just have one more program this year on biosolids and see what the situation is the first of the year. That's just my personal thought.** I'm not sure if you all agree or disagree. We've met and we've met and we've met and we've come up with these things, but it means nothing unless General Assembly says we agree with you. We've never had anyone from the General Assembly to acknowledge we agree with you, that yes, that's a good thing and I'm going to see that we get this through. **Let's hear from some other members here.** Evelyn Janney stated that there are two things and I apologize for not getting here for all of it, but he brought up something that has bothered me for a long time. Whether we could do anything about it, I don't know. Our teachers do have too much to do and they're teaching, like you said, to pass this test, that test, or another test and a lot of our history, a lot of the things that the children need to be learning is going under the table because there's no time for it. I don't know what the solution is, but I don't think SOLs are it, but that's personal feeling. I'm also like him in the fact that we're spinning our wheels, spending our time and it's something that not just this River Basin, but every basin all across the State of VA should be having some of these things. I don't know whether they are or whether they aren't. But what do we do with it after we get it? **Read Charlton asked how many years have we been meeting?** Greg stated since December 2002. So, it'll be 5 years this December. **Mrs. Janney said on the farm, if that cow hadn't been productive in that length of time, she left.** Jerry Lovelace replied Mr. Chairman, if I might, say something, again I'm not on the Committee but from my perspective I think the issue with the General Assembly starts with your legislative members. I think somehow they need to get the message back to their colleagues. I mean, Greg can write the reports all day but without that advocacy on the part of the elected officials taking that, you know, continuing that message and emphasizing that message, I'm afraid it's either not falling on ears at all or it's not falling strong enough to really be heard. **Chairman Poindexter I have to say that I'm in regular contact with the Congressman and he continues to emphasize to me his interest in whatever we can do, whatever role we can play in preventing any inter-basin transfers.** Robert Conner said Congressman Goode's up there in Washington where he ought to be taking care of our business and, in my opinion, he's doing that. It would be nice if the General Assembly could get some staff members to cover if they can't be here so that they get word of the deliberations. **Evelyn Janney commented Senator Ruff makes most of the meetings which is good.** I am concerned about losing Senator Hawkins, because he's the one that I know helped get some funding for us. **Chairman Poindexter said lets go ahead and plan a meeting on biosolids and see what the next election brings.**

- Reed Charlton said a couple of things have come up since our last meeting. One is I heard a rumor that they were mining uranium in Pittsylvania County and I met with a fellow down here in South Boston. There was a book put out called the Geology of VA and there was a uranium deposit in Pittsylvania County. After I heard about that I started reading about it a little bit and the huge problem with the mining process is the pollution, I guess its radioactive pollution in certain areas in the west. This went on for several years, this mining of uranium. It's promoted by the government. Anyway, I'm going to continue to do my reading on it.
- The other thing that came up was that, a company has proposed an ethanol plant in Chase City. I called the editor of the paper down there in Chase City and he didn't offer me any dates when they were going to have a town meeting about this. I don't know a thing about it other than it was planned down there, I don't know what the impact would be on the Basin, but about 1/2 of the town is strongly for it and 1/2 of it's against it. **Bob Conner stated Mr. Chairman, if I may enlighten you on that, I'm on the Roanoke River Water Authority and we're permitted I think it's 9 or 10 million gallons of water a day withdrawal from the Lake Gaston. Roanoke River Water Authority received an inquiry regarding the use of water for the Roanoke River Water**

**Authority.** We advised that we could provide the water to the plant, so there's not going to be additional withdrawal from the lake at all. It's going to fall within our permitted volume. We did the checking and made sure and so it's not going to be any additional withdrawal from the Roanoke River Basin and we only told them that we could provide the water. Everything else comes through grants, etc. and so forth. We're not a political entity. All we want to do is sell water. **Mr. Chairman** it's not going to be an impact on the Roanoke River Basin at all. Chairman Poindexter asked are there any other pollutants or anything that's a concern with an ethanol plant? **Jerry Lovelace** replied I don't know if it's true or not. We've heard a little bit about it here and I'm not sure there's enough scientific data out there yet. A concern that had been expressed was airborne particulates. Whether that's valid or not, I don't know, I just know that question's been raised. I mean, you're doing, you're burning and you're doing emissions. The sophistication of your air pollution control equipment and all of that is a factor. I don't know what their fuel source is. Also there's also interest here in Halifax, there's a study underway right now looking at the possibility of a power generation facility here that would be primarily wood fire, but its wood scraps and also can burn switch grass, and a number of things like that. Again, part of the concern with that is what I just mentioned, is your air emissions on that. **Read Charlton** said in Halifax the County Agent has been promoting the switch grass and they've had a couple of symposiums, seminars on switch grass. **Yes, we're very much interested in it, you know, as an ag product, you know, as cattle, you know, 'cause it's cattle feed as well as a number of other things, switch grass can be used for.** There is a good thing about a switch grass. If you're using corn or soy beans or some other input for your ethanol plant, you have to go back there and you have to plant that stuff every single year and you put more energy into doing that than you're getting out of it. Now, you put in switch grass and it's in for good. **Chairman Poindexter** said once you get a stand. **It's very difficult to get a stand of switch grass too.** It is, but there's a company out in, there's a company in Ohio, I forget their name, GLC or something, they were at the seminar and they will put it in, they will plant the switch grass, they guarantee. It's got a 20 foot root system that goes down so drought doesn't hurt it and weather doesn't impact it. It's a warm weather grass. **That's right. Isn't there a small, experimental plot here?** **Jerry Lovelace** indicated they're setting some up here in Halifax. Our Ag Development is active in it. There are 3 or 4 experimental plots here that they're taking a look at. **Evelyn Janney** said it sounds like it would be hard to get rid of if you don't like it? **I think you can kill it with regular chemicals if you don't like it and you want to re-plant. It won't take cultivation very much. Wildlife like it. Its great bird cover and the rabbits, turkeys and things like that, 'because it's open at the bottom, there's plenty of room for little chicks to go 'round underneath it.** **Read** said you can feed it to your cows. They're talking about direct injection of some fiber in this generating plant and it takes a while to get that going. You can feed this switch grass to your cattle, you know, for the immediate future and you don't have to go back there every year and put in fertilizer, lime and whatever, soy beans.

- **Chairman Poindexter** said as to your comment that they were mining uranium in Pittsylvania County, that's not true. There is a proposal to do that in the future. **Read** said **I was just pointing out the existence of a deposit there.** Yeah, well there's a proposal with the stock market involved and all sorts of things for that. **Jerry Lovelace** said that was a very controversial issue here back in the late '70s early '80s. I mean it was a multiyear issue. We're part of the Triassic Basin which basically stems from Georgia to NJ which has a predominance of uranium. One of the heaviest concentrations is in Pittsylvania County. It was being looked at quite a bit at the time. The big environmental issues with that, just to follow up on what you were saying, really covered 3 areas. A lot of this going back to some of the problems they had out West. 1.) When you're taking it out of the ground your waste product is what is called tailings and it goes in a big pile. The wind blows, it's blowing air-borne radioactive particles and individual particle is not a problem, cumulatively it's a problem. 2.) These big tailing piles would be set up and the rain would hit it and there are no E&S measures, so it all ran into your surface streams with the run-off. 3.) The other issue was seepage into the ground water. But those are your 3 big environmental issues on that. **Read** replied so the tailings, the surface water and ground water. **Correct and I, again there was an article in our paper here yesterday about that, as I remember the article, this was being looked at in part from one of Governor Kaine's Energy Independency Initiatives.** **Chairman Poindexter** said that's probably

related too to what another, well we need more uranium to put the other reactor in Lake Anna? **I don't, you maybe right, I don't know, that I don't know.** Read stated they're saying that we're certainly going to need this electricity in the future and nuclear powered generation is going to be one way we can get this has no carbon in it.

- Chairman Poindexter said okay, I think that about does it, anybody have anything else? I thank you all for coming and we'll see you in November.

**Sub-committee Reports:**

- Agriculture and Forestry: No report.
- Municipal Interests and Permit Holders (MIPH): No report
- Rivers: No report.
- Water: No report
- Lake Interests: No report.

**Future Meeting:**

The next meeting will be in the western area near around the week of November 12. Since then the meeting has been cancelled. The program which would have pertained to biosolids will be rescheduled at a meeting in the spring. There will probably be a meeting in Richmond in January.

**Adjournment**